

**Vol. X**  
**TRANSCRIPT OF RECORD**

(Pages 4431 to 4852)

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**Supreme Court of the United States**

**OCTOBER TERM, 1944**

**No. 296**

PANHANDLE EASTERN PIPE LINE COMPANY,  
ILLINOIS NATURAL GAS COMPANY AND MICHIGAN  
GAS TRANSMISSION CORPORATION, PETI-  
TIONERS.

*vs.*

FEDERAL POWER COMMISSION, CITY OF DETROIT,  
COUNTY OF WAYNE, MICHIGAN, ET AL.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT  
OF APPEALS FOR THE EIGHTH CIRCUIT

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PETITION FOR CERTIORARI FILED JULY 28, 1944

CERTIORARI GRANTED JANUARY 3, 1945

VOL. X: ———  
**TRANSCRIPT OF RECORD.**

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**United States Circuit Court of Appeals**  
EIGHTH CIRCUIT.

**No. 12,466**

PANHANDLE EASTERN PIPE LINE COMPANY, A  
CORPORATION; ILLINOIS NATURAL GAS  
COMPANY, A CORPORATION, AND MICHIGAN  
GAS TRANSMISSION CORPORATION, A COR-  
PORATION, PETITIONERS,

vs.

FEDERAL POWER COMMISSION, CITY OF DETROIT,  
MICHIGAN, COUNTY OF WAYNE, MICHIGAN,  
MICHIGAN CONSOLIDATED GAS COMPANY,  
A CORPORATION, AND MICHIGAN PUBLIC  
SERVICE COMMISSION, RESPONDENTS.

PETITION TO REVIEW AND SET ASIDE ORDER OF FEDERAL  
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FILED FEBRUARY 6, 1943.

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PETITION TO REVIEW AND SET ASIDE ORDER OF FEDERAL  
POWER COMMISSION.

FILED FEBRUARY 6, 1943.

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Natural Gas Company, and Michigan Gas Transmission cor-  
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Commission

Nature of proceedings as to which review is sought

Facts and statute upon which venue is based

Points on which petitioners intend to rely

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Securities Of Natural Gas CompaniesSummary According To Class Of Holders

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Public</u>	<u>Held by Institutions</u>	<u>Affiliates</u>
<u>El Paso Natural Gas Co. (June 30, 1941)</u>				
Bonds and Notes:				
First Mtge. S.F. 3 1/2%, 1953	\$ 6,000,000	\$ —	\$ 6,000,000	\$ —
First Mtge. S.F. 3%, 1955	2,800,000	—	2,800,000	—
Notes, 2 1/2%, 1942-1946	1,215,000	—	1,215,000	—
Notes, 2 3/4%, 1942-1944	625,000	—	625,000	—
Notes, 3%, 1942-1945	1,037,500	—	1,037,500	—
	11,677,500	—	11,677,500	—
Preferred Stock, 7% Cum., 14,797 shs., Par \$100	1,479,700	1,479,700	—	—
Common Stock, 601,594 shs., Par \$3.	5,301,994(d)	5,301,994	—	—
Total	\$18,459,194	\$ 6,781,694	\$11,677,500	\$ —
(d) Common Stock of \$5,301,994 includes premium of \$3,497,212.				
• <u>Hope Natural Gas Co. (Dec. 31, 1940)</u>				
Common Stock, 279,693 shs., Par \$100	\$27,969,300	\$ —	\$ —	\$27,969,300
<u>Houston Natural Gas Corp. (Dec. 31, 1940)</u>				
First Mtge. S.F. 4%, 1955	\$ 3,500,000	\$ 3,500,000	\$ (e)	\$ —
Preferred Stock, 7% Cum. 10,000 shs., Par \$50	500,000	500,000	—	—
Common Stock, 158,289 shs., No Par	1,425,484	1,425,484	—	—
Total	\$ 5,425,484	\$ 5,425,484	\$ —	\$ —
(e) Holdings by Institutions not available.				
<u>Interstate Natural Gas Co. (Dec. 31, 1940)</u>				
Common Stock, 952,953 shs., No Par	\$ 6,529,530	\$ 1,893,564	\$ —	\$ 4,635,966
<u>Kentucky West Virginia Gas Co. (Dec. 31, 1940)</u>				
Preferred Stock:				
5% Cum. First, 29,375 shs., Par \$100.	\$ 2,937,500	\$ —	\$ —	\$ 2,937,500
7% Cum. Second, 54,075 shs., Par \$100	5,407,500	—	—	5,407,500
	8,345,000	—	—	8,345,000
Common Stock, 100,000 shs., No Par	1,304,715	—	—	1,304,715
Total	\$ 9,649,715	\$ —	\$ —	\$ 9,649,715

• Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

Securities Of Natural Gas Companies  
Summary According To Class Of Holders

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<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Public</u>	<u>Held by Institutions</u>	<u>Affiliates</u>
<u>Lone Star Gas Corp. (Consolidated) (June 30, 1941)</u>				
Long Term Notes 2 — 2 1/4%, 1941-1951	\$23,700,000	\$ —	\$23,700,000	\$ —
Common Stock (f), 5,508,681 shs., No Par	58,491,279	58,491,279		
Total	\$82,191,279	\$58,491,279	\$23,700,000	\$ —
(f) Represents average number of shares for 12 months ended June 30, 1941				
<u>*Manufacturers Light &amp; Heat Co. (The) (Dec. 31, 1939)</u>				
Common Stock, 450,608 shs., Par \$50	\$22,530,400	\$ —	\$ —	\$22,530,400 (g)
(g) Includes \$6,300 par value of Common held by public				
<u>Memphis Natural Gas Co. (Dec. 31, 1940 — after adjusting for liquidation of promissory notes in Apr. 1941)</u>				
Promissory Notes Payable due serially	\$ 400,000	\$ —	\$ 400,000	\$ —
Common Stock, 918,680 shs., Par \$5	4,593,400	2,381,678		2,211,722
Total	\$ 4,993,400	\$ 2,381,678	\$ 400,000	\$ 2,211,722
<u>*Michigan Gas Transmission Co. (Dec. 31, 1939)</u>				
Advances	\$ 6,470,500	\$ —	\$ —	\$ 6,470,500
Common Stock, 44,800 shs., No Par	2,240,000			2,240,000
Total	\$ 8,710,500	\$ —	\$ —	\$ 8,710,500
<u>Mississippi River Fuel Corp. (Dec. 31, 1940 — after adjusting for retirement of First 4's of 1952 on Jan. 31, 1941 with proceeds from bank loan)</u>				
Bank Loan payable over period to Feb. 1, 1948 bearing 2 3/4% interest	\$ 7,300,000	\$ —	\$ 7,300,000	\$ —
Note, 2 3/4%, 1947	2,200,000		2,200,000	
Common Stock, 655,220 shs., Par \$10	9,500,000		9,500,000	
	6,552,200			6,552,200 (h)
Total	\$16,052,200	\$ —	\$ 9,500,000	\$ 6,552,200

(h) Includes 0.51% of outstanding Common Stock ownership of which is not accounted for.

\* Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

Securities Of Natural Gas Companies  
Summary According To Class Of Holders

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Public</u>	<u>Held by Institutions</u>	<u>Affiliates</u>
<u>Montana-Dakota Utilities Co. (June 30, 1941)</u>				
Bonds and Notes:				
Serial Purchase Contracts	\$ 16,004	\$ 16,004	\$	\$
First Mtge. 2 1/2% Serial, 1942-1949	2,500,000	2,500,000	(17)	
First Mtge. 3 1/2% S.F., 1961	7,500,000	7,500,000	(1)	
Serial Notes 2 to 3 1/2%, 1942-1950	3,510,000		3,510,000	
	13,526,004	10,016,004	3,510,000	
Preferred Stocks:				
6% Preferred, Par \$100 — 17,739 shs.	1,773,900	1,773,900		
5% Preferred, Par \$100 — 59,592 3/5 shs.	5,959,260	5,959,260		
Common Stock, 676,852 3/8 shs., Par \$10	6,766,522	6,766,522		
Total	\$28,025,686	\$24,515,686	\$ 3,510,000	\$
(i) Holdings by Institutions not available.				
<u>Mountain Fuel Supply Co. (Dec. 31, 1940)</u>				
Common Stock, 1,989,902 5 shs., Par \$10	\$19,899,025	\$15,090,455		\$ 4,808,570
<u>National Fuel Gas Co. (Consolidated) (Dec. 31, 1940)</u>				
Common Stock, 3,810,183 shs., No Par	\$68,878,100 (1)	\$68,878,100	\$	\$
(2) Total of \$68,878,100 includes surplus and premium.				
<u>Natural Gas Company of West Virginia (Dec. 31, 1939)</u>				
Advances	\$ 2,400,000	\$	\$	\$ 2,400,000
Common Stock, 29,972 shs., Par \$100	2,997,200			2,997,200
Total	\$ 5,397,200	\$	\$	\$ 5,397,200

\* Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

Securities Of Natural Gas Companies  
Summary According To Class Of Holders

Company and Issues	Total Securities Outstanding	Public	Held by Institutions	Affiliates
<u>Natural Gas Pipeline Company of America (Dec. 31, 1940)</u>				
Bonds, Debentures and Advances:				
First Mtge. S.F.A. 6%, 1946	\$40,000,000	\$	\$	\$40,000,000
Debentures, 6%, 1946	6,000,000			6,000,000
Advances	2,470,000			2,470,000
	48,470,000 (k)			48,470,000
Common Stock, 1,500,000 shs., Par \$3	3,000,000			3,000,000
Total	\$51,470,000	\$	\$	\$51,470,000

(k) In 1941 company sold privately to a group of insurance companies an issue of \$22,000,000 bonds. Proceeds will be used chiefly for new construction in the company's program to double its original capacity and to extend its lines. Meanwhile, company has been considering a plan to refund \$40,000,000 first 6's A, 1946, which are owned by its stockholders.

New York State Natural Gas Corp. (Dec. 31, 1938) (l)

Income Notes, 6%, 1942	\$ 4,500,000	\$	\$	\$ 4,500,000
Common Stock, 20,000 shs., Par \$100	2,090,000 (m)			2,090,000
Total	\$ 6,590,000	\$	\$	\$ 6,590,000

(l) Adjusted to reflect reduction of \$1,000,000 in note indebtedness in 1939, and extension of maturity date to 1942.  
(m) Does not include Common Stock subscribed in amount of \$310,000.

Northern Natural Gas Co. (June 30, 1941)

Bonds and Notes:				
First Mtge. S.F.A. 3 1/4%, 1954	\$16,000,000	\$	\$16,000,000	\$
Notes, 2 1/8%, 1940-1946	4,000,000		4,000,000	
	20,000,000		20,000,000	
Common Stock, 1,015,000 shs., Par \$20	20,300,000			20,300,000
Total	\$40,300,000	\$	\$20,000,000	\$20,300,000

North Penn Gas Co. (Consolidated) (Dec. 31, 1940)

First Mtge. & Lien, 5 1/2%, 1957	\$ 3,450,000	\$ 2,845,000	\$ 605,000	\$
Preferred Stock:				
\$7 Prior Pref, 6,114 shs., No Par	611,100	611,100		
\$7 Cum. Pref, 13,160 shs., No Par	1,316,000			1,316,000
Common Stock, 100,000 shs., No Par	1,823,500			1,823,500
Total	\$ 7,200,600	\$ 3,456,100	\$ 605,000	\$ 3,139,500

Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

Securities Of Natural Gas CompaniesSummary According To Class Of Holders

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Public</u>	<u>Held by Institutions</u>	<u>Affiliates</u>
<u>*Ohio Fuel Gas Co. (Dec. 31, 1939)</u>				
Notes and Advances:				
Notes, 4%, 1939-1946	\$ 4,500,000	\$	\$ 4,500,000	\$
Advances	6,075,000			6,075,000
Common Stock, 1,343,803 shs., Par \$45	10,575,000 60,471,135		\$ 4,500,000	6,075,000 60,471,135
Total	\$71,046,135	\$	\$ 4,500,000	\$66,546,135
<u>Oklahoma Natural Gas Co. (June 30, 1941)</u>				
Bonds and Notes:				
First Mtge. S.F.B. 2 3/4%, 1955	\$16,800,000	\$ 7,946,000	\$ 8,854,000	\$
Notes Payable Serially to 1946	5,500,000		5,500,000	
Preferred — \$5.50 Conv. Prior 58,000 shs., No Par	22,300,000	7,946,000	14,354,000	
— \$3 Preferred 91,055 shs., Par \$59	5,800,000	5,800,000		
* Common — 550,000 shs., Par \$15	4,552,750 8,250,000	4,552,750 8,250,000		
Total	\$40,902,750	\$26,548,750	\$14,354,000	\$
<u>Pacific Lighting Corp. (Consolidated) (June 30, 1941)</u>				
Bonds and Notes:				
Pacific Lighting Corp. Notes, 3%, 1940-1949	\$ 5,500,000	\$	\$ 5,500,000	\$
Southern Calif. Gas Co. First Mtge. S.F. 3 1/4%, 1970	35,000,000	35,000,000	(n)	
Southern Counties Gas Co. of Calif. First Mtge. S.F. 3%, 1971	11,500,000	11,500,000	(n)	
Preferred Stock:	52,000,000	16,500,000	5,500,000	
Pacific Ltg. Corp. \$5 Pref. 200,000 shs., No Par	20,000,000	20,000,000		
Southern Calif. Gas Co. 6% Pref. 114,532 shs., Par \$25	2,863,300	2,863,300		
Southern Calif. Gas Co. 6% Pref. A, 783,032 shs., Par \$25	19,575,800	19,575,800		
Common Stock, 1,608,631 shs., No Par	29,937,924	29,937,924		
Total	\$124,377,024	\$118,877,024	\$ 5,500,000	\$

(n) Holdings by Institutions not available.

Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

Securities Of Natural Gas Companies  
Summary According To Class Of Holders

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Public</u>	<u>Held by Institutions</u>	<u>Affiliates</u>
<u>Panhandle Eastern Pipe Line Co. (Consolidated)</u>				
<u>(June 30, 1942)</u>				
<u>Bonds and Notes:</u>				
First Mtge. & First Lien A, 1.65 — 2.30%, 1946-50	\$ 6,250,000	\$ —	\$ 6,250,000	\$ —
First Mtge. & First Lien S.F. B. 3%, 1960	12,000,000	12,000,000	(a)	—
Notes 0.75 — 1.50%, 1942-45	5,000,000	—	5,000,000	—
Other Long Term Debt	17,544	17,544	(a)	—
	23,267,544	12,017,544	11,250,000	—
<u>Preferred Stock:</u>				
Class A \$5,100,000 shs., Par \$100	10,000,000	—	—	10,000,000
Class B \$6, 10,000 shs., Par \$100	1,000,000	—	—	1,000,000
Common Stock, 807,367 shs., No Par	20,184,175	1,589,150	—	18,595,025
Total	\$54,451,719	\$13,606,694	\$11,250,000	\$29,595,025
(a) Holdings by institutions not available.				
<u>*Peoples Natural Gas Company (Dec. 31, 1939)</u>				
Notes	\$ 3,750,000	\$ —	\$ —	\$ 3,750,000
Common Stock, 132,000 shs., Par \$100	13,200,000	—	—	13,200,000
Total	\$16,950,000	\$ —	\$ —	\$16,950,000
<u>Pittsburg and West Virginia Gas Co. (Consolidated)</u>				
<u>(Dec. 31, 1940)</u>				
Notes — Affiliated Company's	\$14,587,633	\$ —	\$ —	\$14,587,633
Common Stock, 344,000 shs., No Par	8,600,000	—	—	8,600,000
Total	\$23,187,633	\$ —	\$ —	\$23,187,633
<u>Southern Natural Gas Co. (Consol.) (June 30, 1941)</u>				
<u>Bonds and Notes:</u>				
First Mtge. S.F. 3 1/4%, 1956	\$13,000,000	\$13,000,000	\$ —	\$ —
Serial Notes, 2 1/2%, 1942-1947	4,500,000	—	4,500,000	—
Alabama Gas Co. First Mtge. 4 1/2%, 1951	1,381,000	940,000	441,000	—
Alabama Nat. Gas Corp. First Mtge. 5%, 1947	40,000(p)	40,000	—	—
	18,921,000	13,980,000	4,941,000	—
Common Stock 1,297,447 153/1630 shs., Par \$7.50	11,552,304(q)	5,487,344	—	6,064,960(r)
Total	\$30,473,304	\$19,467,344	\$ 4,941,000	\$ 6,064,960

(p) Represents City of Talladega (Ala.) bonds assumed.

(q) Includes premium of \$1,821,450 on Capital Stock.

(r) Estimated at 52.5% of total.

Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

Securities Of Natural Gas Companies  
Summary According To Class Of Holders

Company and Issues	Total Securities Outstanding	Public	Held by Institutions	Affiliates
<u>*South Penn. Natural Gas Co. (Dec. 31, 1939)</u>				
Common Stock, 100,000 shs., Par \$100	\$10,000,000	\$ —	\$ —	\$10,000,000
<u>Texoma Natural Gas Co. (Dec. 31, 1940)</u>				
Gas & Pipeline Mtge. S.F.A. 6%, 1946	\$18,950,000	\$ —	\$ —	\$18,950,000
Common Stock, 10,000 shs., No Par	500,000	—	—	500,000
Total	\$19,450,000	\$ —	\$ —	\$19,450,000
<u>*United Fuel Gas Co. (Dec. 31, 1939)</u>				
Notes and Long Term Advances:				
Notes, 4%, 1939-46	\$ 4,500,000	\$ —	\$ 4,500,000	\$ —
Advances	14,535,000	—	—	14,535,000
Common Stock, 300,000 shs., Par \$1	19,035,000	—	4,500,000	14,535,000
	300,000	—	—	300,000
Total	\$19,335,000	\$ —	\$ 4,500,000	\$14,835,000
<u>United Gas Pipeline Co. (Consolidated) (Dec. 31, 1940)</u>				
Bonds and Debentures:				
United Gas Pipeline Co. Debs., 6%, 1952	\$23,000,000	\$ —	\$ —	\$23,000,000
Houston Gulf Gas Co. 2 1/2% Serial Bank Loan	6,000,000	—	6,000,000	—
Common Stock, 100,000 shs., No Par	29,000,000	—	6,000,000	23,000,000
	96,772,535	—	—	96,772,535
Total	\$125,772,535 (s)	\$ —	\$ 6,000,000	\$119,772,535
(s) Houston Gulf Gas Co. 7% Cum. Pfd. Stock (Par \$100) — \$10,800 Par Value, Series A and \$1,000 Par Value, Series B — held by public but not included in above summary.				
<u>*Virginia Gas Transmission Corp. (Dec. 31, 1939)</u>				
Advances	\$ 4,113,000	\$ —	\$ —	\$ 4,113,000
Common Stock, 10 shs., No Par	100	—	—	100
Total	\$ 4,113,100	\$ —	\$ —	\$ 4,113,100
<u>*Warfield Natural Gas Co. (Dec. 31, 1939)</u>				
Advances	\$ 9,790,000	\$ —	\$ —	\$ 9,790,000
Common Stock, 5,470 shs., Par \$100	547,000	—	—	547,000
Total	\$10,337,000	\$ —	\$ —	\$10,337,000

Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

Securities Of Natural Gas Companies  
Summary According To Class Of Holders

<u>Company and Issues</u>	<u>Total Securities Outstanding</u>	<u>Public</u>	<u>Held by Institutions</u>	<u>Affiliates</u>
<u>*West Texas Gas Co. (Dec. 31, 1939)</u>				
Notes, 3%, 1940-45	\$ 3,150,000	\$ —	\$ 3,150,000	\$ —
Common Stock, 80,000 shs., Par \$25	2,000,000	—	—	2,000,000
Total	\$ 5,150,000	\$ —	\$ 3,150,000	\$ 2,000,000
<u>Grand Total</u>	<u>\$1,181,773,511</u>	<u>\$366,299,879</u>	<u>\$183,253,197</u>	<u>\$632,220,435</u>
<u>Grand Total by Type of Securities (All Companies)</u>				
Bonds	\$248,242,000	\$96,771,000	\$87,464,000	\$64,007,000
Debentures	44,400,000	—	900,000	43,500,000
Notes	120,692,935	33,548	94,437,500	26,221,887
Advances	59,380,500	—	—	59,380,500
Total	472,715,435	96,804,548	182,801,500	193,109,387
Preferred Stock	98,776,810	63,115,810	—	35,661,000
Common Stock	610,281,266	206,379,521	451,697	403,945,048
<u>Grand Total</u>	<u>\$1,181,773,511</u>	<u>\$366,299,879</u>	<u>\$183,253,197</u>	<u>\$632,220,435</u>
<u>Grand Total by Types of Securities — Companies Analyzed for Investors' Appraisal of Risks of Capital</u>				
Bonds	\$124,771,000	\$93,926,000	\$30,845,000	\$
Debentures	900,000	—	900,000	—
Notes	51,021,048	33,548	50,987,500	—
Advances	—	—	—	—
Total	176,692,048	93,959,548	82,732,500	—
Preferred Stock	73,504,710	62,504,710	—	11,000,000
Common Stock	242,695,764	206,379,521	—	36,316,243
<u>Grand Total</u>	<u>\$492,892,522</u>	<u>\$362,843,779</u>	<u>\$82,732,500</u>	<u>\$47,316,243</u>

\* Data taken from an Exhibit prepared by Mr. Charles W. Knapp, Jr., for the Federal Power Commission in the Hope Natural Gas Co. hearings.

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{fol. 13398}

Appendix C.

Working Papers Showing

The Computation of

Investors' Appraisal of the Risks of Capital

Water Companies .....	begin on page 1
Electric Operating Utility Companies .....	begin on page 22
Manufactured and Mixed Gas Companies .....	begin on page 67
Natural Gas Companies .....	begin on page 97

Note: Unless otherwise indicated all market price ranges on bonds were obtained from Standard & Poor's Corp. (formerly Standard Statistics Company) Bond Guides dated September 5, 1941, January 1941, January 1940, January 1939 and January 1938; and all market price ranges on stocks were obtained from Moody's Public Utility Manuals for 1938-1941, both inclusive.



Bridgeport Hydraulic Company

1944

Indicated Market Value Of Capital	Outstanding Dec. 31, 1940	Price Range to August 31			Value
		High	Low	Average	
(a) Common Stock (\$20)	350,000 shs.	37	30	33.50	\$11,725,000
(b) "H" 3 1/4s, 1968	\$1,490,000			106.00	1,579,400
(c) "I" 3 3/8s, 1974	4,971,000			108.00	5,368,680
(d) "J" 3s, 1970	500,000			104.04	520,200
Total Indicated Market Value					\$19,193,280

Earnings Available For Capital

Net Income for year ended Dec. 31, 1940, as reported  
Add: Interest and amortization on debt

\$620,286  
221,066

Total Earnings Available for Capital

\$844,352

Investors' Appraisal Of Risks Of Capital

4.40%

Notes: (a) Quotations from National Quotation Bureau.

(b) Price estimated. Sold privately in June, 1938 by Lee Higginson Corp. \$106 is call price.

(c) Price estimated. Sold privately July 1, 1939.

(d) Sold privately in 1940 at \$104.01.

[fol. 13402]

Appendix C  
Page 4

## Elizabethtown Water Company Consolidated

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
(a) Capital Stock (\$100 par)	39,342 shs.	102	95	98.50	\$3,875,187	39,342 shs.	95	85	90.00	\$3,540,780
(b) Raritan Township Water, 5's, 1960	\$104,000	103	100	101.50	105,560	\$104,000	103	100 1/2	101.75	105,820
(c) Piscataway Water 5's, 1960	239,000	102 1/2	100	101.25	241,988	239,000	103	100	101.50	242,585
Total Indicated Market Value					<u>\$4,222,735</u>					<u>\$3,889,185</u>
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$276,535					\$277,473
Add: Deductions from Gross Corporate Income (mainly bond interest)					20,115					20,128
Total Earnings Available for Capital					<u>\$296,650</u>					<u>\$297,601</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>7.03%</u>					<u>7.65%</u>

Notes: (a) 1937 quotations from Poor's Utility Manual  
 (b) 1937 quotations from National Quotation Bureau; 1938 quotations from Moody's Utility Manual  
 (c) 1937 and 1938 quotations from National Quotation Bureau

[fol. 13403]

Appendix C  
Page 5

## Elizabethtown Water Company Consolidated

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$100 par)	39,342 shs.	112	97	104.50	\$4,111,239	39,342 shs.	114	110	112.00	\$4,406,304
(a) Raritan Township Water 5's, 1960	\$104,000	104	101	102.50	106,600	\$104,000	105	102	103.50	107,640
Total Indicated Market Value					<u>\$4,217,839</u>					<u>\$4,513,944</u>
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$317,016					\$353,866
Add: Deductions from Gross Corporate Income (mainly bond interest)					11,320					6,799
Total Earnings Available for Capital					<u>\$328,336</u>					<u>\$360,665</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>7.78%</u>					<u>7.99%</u>

Note: (a) Quotations from Moody's Utility Manual

Elizabethtown Water Company Consolidated

1941

	Outstanding Dec 31, 1940	Price Range to August 31			Value
		High	Low	Average	
Indicated Market Value Of Capital					
(a) Capital Stock (\$100 par)	39,342 shs.	114	105	108.50	\$4,307,949
(a2) Raritan Township Water, 5s, 1960	\$104,000	103	103	103.00	107,120
Total Indicated Market Value					\$4,415,069
Earnings Available For Capital					
Net Income for year ended December 31, 1940, as reported					\$353,896
Add: Deductions from Gross Corporate Income (mainly bond interest)					6,799
Total Earnings Available for Capital					\$360,665
Investors' Appraisal Of Risks Of Capital					8.17%

Note: (a) Quotations from National Quotation Bureau.

## Hackensack Water Company

		1937			
	Outstanding	Price Range for Year			
	December 31	High	Low	Average	Value
<u>Indicated Market Value Of Capital</u>					
Common Stock	307,500 shs.	34 3/4	23 1/8	28 9/4	\$8,899,050
7% Preferred Stock — A	60,000 shs.	36	26 1/2	31.25	1,875,000
(a) Mtge. Bonds, Ser. A, 3 1/2's, 1968					
1st Mtge. 4's, 1952	\$4,750,000	108	105 3/4	106.88	5,076,800
General Ref. 5's, 1977	4,000,000	107	102	104.50	4,180,000
" " 5's, 1977	5,262,000	109 1/2	105	107.25	5,643,495
Total Indicated Market Value					<u>\$25,674,345</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$ 935,464
Add — Interest on Funded Debt					688,834
Amortization of Debt Discount, etc.					40,993
Taxes assumed on interest					5,798
Total Earnings Available for Capital					<u>\$1,671,089</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					
					6.51%

Note: (a) Sold privately in October, 1938 at \$105.25

[fol. 13406]

## Hackensack Water Company

		1939			
	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock	307,500 shs.	32 1/4	29	30.63	\$9,418,726
7% Preferred Stock — A	60,000 shs.	38	32	35.00	2,100,000
(a) Mtge. Bonds, Ser. A, 3 1/2's, 1968	\$14,350,000			105.25	15,103,375
Total Indicated Market Value					<u>\$26,622,100</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$1,182,231
Add — Interest on Funded Debt					562,956
Amortization of Debt Discount, etc.					24,493
Taxes assumed on interest					2,821
Total Earnings Available for Capital					<u>\$1,772,500</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					
					6.66%

Note: (a) Sold privately in October, 1938, at \$105.25.

Outstanding December 31	1938 Price Range for Year			Value
	High	Low	Average	
307,500 shs.	30	24	27.09	\$8,302,500
60,000 shs.	35	30	32.50	1,950,000
\$14,350,000			105.25	15,103,375

Outstanding December 31	1940 Price Range for Year			Value
	High	Low	Average	
307,500 shs.	34 1/4	29 1/4	31.75	\$9,763,125
60,000 shs.	37	30	33.50	2,010,000
\$14,350,000			105.25	15,103,375
				<u>\$26,876,500</u>
				\$ 968,301
				502,250
				24,365
				838
				<u>\$1,495,754</u>
				5.57%

## Hackensack Water Company

1941

Price Range to August 31

Outstanding  
Dec. 31, 1940

High	Low	Average	Value
------	-----	---------	-------

## Indicated Market Value Of Capital

(a) Common Stock (\$25 par)	307,500 shs.	33	28	30.50	\$ 9,378,750
(a) 7% Cum. Pref. Stock - A (\$25 par)	60,000 shs.	38	33	35.50	2,130,000
(b) Mtge. Bonds Ser. A 3 1/2s, 1968	\$14,350,000			105.25	15,103,375
Total Indicated Market Value					\$26,612,125

## Earnings Available For Capital

Net Income for year ended December 31, 1940

Add: Interest on funded debt  
Amortization of debt discount, etc.  
Taxes assumed on interest

\$968,301
502,250
21,365
838

Total Earnings Available for Capital

\$1,495,754

## Investors' Appraisal Of Risks Of Capital

Note (a) Listed on N. Y. Stock Exchange.

(b) Sold privately in October, 1938, at 105.25.

5.62%

Middlesex Water Company

1937

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Common Stock (no par)	23,500 shs.	60	50	55.00	\$1,292,500
(a) 7% Cum. Pfd. (\$100 par)	2,500 shs.	118	105	111.50	278,750
(b) Cons. 5's, due 2/1/50	\$ 32,000	106	102	104.00	33,280
1st & Ref. 5 1/2's, 4/1/57	1,663,000	108	103	105.50	1,754,465
Total Indicated Market Value					\$3,358,995

Earnings Available For CapitalNet Income for years ended December 31,  
as reported

\$ 98,682

Add: Interest on Funded Debt

93,065

Amortization of Debt Discount

4,124

Total Earnings Available for Capital

\$ 195,871

Investors' Appraisal Of Risks Of Capital

5.83%

Notes: (a) 1937 and 1938 quotations from National Quotation Bureau

(b) 1937 and 1938 quotations from Poor's Utility Manual

[fol. 13409]

Middlesex Water Company

1939

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Common Stock (no par)	23,500 shs.	45	39	42.00	\$ 987,000
(a) 7% Cum. Pfd. (\$100 par)	2,500 shs.	115	103	109.00	272,500
(b) (d) Cons. 5's, due 2/1/50	\$ 32,000	108	104	106.00	33,920
1st & Ref. 5 1/2's, 5/1/57		Called 10/2/39 at 105			
(c) 1st & Ref. 3 3/4's, 1964	1,668,000			100.00	1,668,000
Total Indicated Market Value					\$2,961,420

Earnings Available For CapitalNet Income for years ended December 31,  
as reported

\$ 102,220

Add: Interest on Funded Debt

85,959

Amortization of Debt Discount

3,731

Total Earnings Available for Capital

\$ 192,010

Investors' Appraisal Of Risks Of Capital

6.48%

1938

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
23,500 shs.	40	31	35.50	\$ 834,250
2,500 shs.	108	100	104.00	260,000
\$ 32,000	106 1/2	104	105.25	33,880
1,663,000	108	104 1/2	106.25	1,766,938
				\$2,894,868

Earnings Available For CapitalNet Income for years ended December 31,  
as reported

\$ 73,622

Add: Interest on Funded Debt

93,065

Amortization of Debt Discount

4,124

Total Earnings Available for Capital

\$ 170,811

Investors' Appraisal Of Risks Of Capital

5.90%

Notes: (a) 1937 and 1938 quotations from National Quotation Bureau

(b) 1937 and 1938 quotations from Poor's Utility Manual

1940

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value	
		High	Low	Average			High	Low	Average		
<u>Indicated Market Value Of Capital</u>											
(a) Common Stock (no par)	23,500 shs.	45	39	42.00	\$ 987,000	23,500 shs.	51 1/2	45	48.25	\$1,133,875	
(a) 7% Cum. Pfd. (\$100 par)	2,500 shs.	115	103	109.00	272,500	2,500 shs.	117	112	114.50	286,250	
(b) (d) Cons. 5's, due 2/1/50	\$ 32,000	108	104	106.00	33,920	\$ 32,000	106	104	105.00	33,600	
1st & Ref. 5 1/2's, 5/1/57		Called 10/2/39 at 105									
(c) 1st & Ref. 3-3/4's, 1964	1,668,000			100.00	1,668,000	1,668,000			100.00	1,668,000	
Total Indicated Market Value					<u>\$2,961,420</u>						<u>\$3,121,725</u>
<u>Earnings Available For Capital</u>											
Net Income for years ended December 31											
as reported					102,220						113,543
Add: Interest on Funded Debt					85,959						64,150
Amortization of Debt Discount					3,731						2,555
Total Earnings Available for Capital					<u>\$ 192,010</u>						<u>\$ 180,248</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>6.48%</u>						<u>5.77%</u>

Middlesex Water Company

1941

Price Range to August 31

Indicated Market Value Of Capital	Outstanding Dec. 31, 1940	Price Range to August 31			Value
		High	Low	Average	
(a) Common Stock (no par)	23,500 shs.	51	46	48.50	\$1,139,750
(b) 7% Cum. Preferred (\$100 par)	2,500 shs.	120	112	116.00	290,000
(c) Cons. Mfg. 5s, 1950	\$ 32,000	110	105	107.50	34,400
(c) 1st & Ref. 3 3/4s, 1964	1,668,000			100.00	1,668,000
Total Indicated Market Value					\$3,132,150

Earnings Available For Capital

Net Income for year ended June 30, as reported  
Add: Interest on funded debt  
Amortization of debt discount

\$132,033  
64,155  
2,555

Total Earnings Available for Capital

\$198,743

Investors' Appraisal Of Risks Of Capital

6.35%

Notes: (a) Quotations from National Quotation Bureau.

(c) Price estimated. Sold privately to two insurance companies on October 2, 1939.

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## New Haven Water Co.

1937

1938

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common (\$50 par)	140,000 shs.	\$5	74	79.58	\$11,130,000	140,000 shs.	74 1/2	68	71.25	\$9,975,000
1st & Ref. "B" 4 1/2's, 1970	\$1,500,000	116	108 1/2	112.25	1,683,750	\$1,500,000	116	110	113.00	1,695,000
1st & Ref. "C" 4 1/2's, 1981	550,000	116 1/2	109	112.75	620,125	550,000	116 1/2	112	114.25	628,375
(a) 1st & Ref. "D" 4 1/2's, 1983	400,000	116 1/2	109	112.75	451,000	400,000	116 1/2	113 1/2	115.00	460,000
(b) General Ref. Mtge. "A" 3 1/4's, 1962	4,125,000			100.00	4,125,000	4,083,000			100.00	4,083,000
<b>Total Indicated Market Value</b>					<b>\$18,669,875</b>					<b>\$16,841,375</b>

## Earnings Available For Capital

Net Income for years ended December 31

as reported

\$530,569

\$466,360

Add: Interest on Long-Term Debt

258,453

243,334

Amortization of Debt Expense (obtained by comparing, as  
of year ends, balance sheet items included in income  
account as "Other Non-Operating Deductions")

12,000\*

12,611

Total Earnings Available for Capital

\$801,022

\$722,305

## Investors' Appraisal Of Risks Of Capital

4.45%

4.29%

Notes: (a) 1938 quotations from Moody's Utility Manual

(b) Price estimated — sold privately in June, 1937

\* Estimated by Standard & Poor's Corp. Comparison of Unamortized Debt Discount on balance  
sheets is distorted for 1937 owing to refinancing

## New Haven Water Co.

1939

1940

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common (\$50 par)	140,000 shs.	75 1/2	64	69.75	\$ 9,765,000	140,000 shs.	81 1/2	75 1/2	78.50	\$10,990,000
1st & Ref. "B" 4 1/2's, 1970	\$1,500,000	113	107	110.00	1,650,000					
1st & Ref. "C" 4 1/2's, 1981	550,000	117	111	114.00	627,000	\$555,000	115	105	110.00	605,000
(a) 1st & Ref. "D" 4 1/2's, 1983	400,000	117	112	114.50	458,000	400,000	115	110	112.50	450,000
(b) General Ref. Mtge. "A" 3 1/4's, 1962	4,042,000			100.00	4,042,000	4,001,000			100.00	4,001,000
(c) General Ref. Mtge. "B" 3 1/4's, 1975						1,800,000			100.00	1,800,000
<b>Total Indicated Market Value</b>					<b>\$16,542,000</b>					<b>\$17,846,000</b>

## Earnings Available For Capital

Net Income for Years ended December 31,

as reported

\$534,523

\$589,937

Add: Interest on Long-Term Debt

242,170

238,588

Amortization of Debt Expense (obtained by comparing, as  
of year ends, balance sheet items included in income  
account as "Other Non-Operating Deductions")

14,060

15,000\*

Total Earnings Available for Capital

\$790,753

\$843,525

## Investors' Appraisal Of Risks Of Capital

4.78%

4.73%

Notes: (a) Quotations from Moody's Utility Manual

(b) Price estimated — sold privately in June, 1937

(c) " " — sold privately in June, 1940

\* Estimated by Standard & Poor's Corp. Comparison of Unamortized Debt Discount on balance  
sheets is distorted for 1940 owing to refinancing.

4456

New Haven Water Company

1941

Outstanding Dec. 31, 1940	Price Range to August 31			Value
	High	Low	Average	
140,000 shs.	80	64 1/2	72 25	\$10,715,000
\$550,000	109	106	107 50	591,250
1400,000	112	110	111 00	444,000
93,960,000*			100 00	3,960,000
1,800,000			100 00	1,800,000
				<u>\$16,910,250</u>

Total Indicated Market ValueEarnings Available For Capital

Net Income for year ended December 31, 1940, as reported

\$589,937

Add: Interest on long-term debt

238,588

Amortization of debt expense

15,000\*\*

Total Earnings Available for Capital

\$843,525

Investors' Appraisal Of Risks Of Capital

4 99 7/8

Notes: (a) Quotations from National Quotation Bureau.

(b) Called for payment September 1, 1941, at 105 and interest. To be refunded by an issue bearing 3 1/8%.

(c) Price estimated. Sold privately in June, 1937.

(d) Price estimated. Sold privately in June, 1940.

\* After giving effect to \$41,000 sinking fund payment due March 1, 1941.

\*\* Estimated by Standard &amp; Poor's Corp.

[fol. 13414]

Plainfield-Union Water Co.

1937

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Capital Stock (no par)	57,230 shs.	98	82	90.00	\$5,150,700
1st Mtge. "A" 5's, 1961	\$1,250,000	108	104	106.00	1,325,000
Total Indicated Market Value					<u>\$6,475,700</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					\$294,068
Add: Interest on Long-Term Debt Amortization deductions					62,500 (193)
Total Earnings Available for Capital					<u>\$356,375</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>5.50%</u>

Notes: (a) 1937 quotations from Poor's Utility Manual  
Parentheses indicate red figures

[fol. 13415]

Plainfield-Union Water Co.

1939

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Capital Stock (no par)	57,230 shs.	91	85	88.00	\$5,036,240
1st Mtge. "A" 5's 1961	\$1,250,000	108	104	106.00	1,325,000
Total Indicated Market Value					<u>\$6,361,240</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$305,345
Add: Interest on Long-Term Debt Amortization deductions					62,500 (193)
Total Earnings Available for Capital					<u>\$367,952</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>5.78%</u>

Note: Parentheses indicate red figures

1938

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
(a) Capital Stock (no par)	57,230 shs.	83	71	77.00	\$4,406,710
1st Mtge. "A" 5's, 1961	\$1,250,000	108	104	106.00	1,325,000
Total Indicated Market Value					<u>\$5,731,710</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					\$286,682
Add: Interest on Long-Term Debt Amortization deductions					62,500 (193)
Total Earnings Available for Capital					<u>\$348,969</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>6.09%</u>

1940

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Capital Stock (no par)	57,230 shs.	94	80 1/2	87.25	\$4,993,318
1st Mtge. "A" 5's 1961	\$1,250,000	108	103	105.50	1,318,750
Total Indicated Market Value					<u>\$6,312,068</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$280,675
Add: Interest on Long-Term Debt Amortization deductions					62,500 (193)
Total Earnings Available for Capital					<u>\$342,982</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>5.43%</u>

Plainfield-Union Water Company

		1941		
		Price Range to August 31		
		High	Low	Average
Outstanding				
Dec. 31, 1940				
57,230 shs.		92	75	83.50
\$1,950,000				104.92
				\$4,778,705
				2,045,940
				\$6,824,645
				\$278,456
				\$2,646
				(96)
				\$341,006
				5.00%

Indicated Market Value Of Capital

(a) Capital Stock (no par)

(b) 1st Mtge. Ser. A, 3 1/4s, 1971

Total Indicated Market ValueEarnings Available For Capital

Net Income for year ended June 30, as reported

Add: Interest on long-term debt

Amortization deductions

Total Earnings Available for CapitalInvestors' Appraisal Of Risks Of Capital

Notes: (a) Quotations from National Quotation Bureau.

(b) Entire issue sold privately on April 1, 1941, at 104.92 to three insurance companies. The proceeds were used to retire \$1,250,000 1st Mtge., Series A 5s, due 1961.

Parentheses indicate red figure.

[fol. 13417]

Appendix C  
Page 19Stamford Water Company

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
(a) Capital Stock (\$20 par)	20,000 shs.	195	150	172.50	\$3,450,000	100,000 shs.	39 1/2	30	34.75	\$3,475,000
1st Mtge. 5's, 1952	\$400,000	123 1/2	116	119.75	479,000	\$400,000	121	115	118.00	472,000
Total Indicated Market Value					\$3,929,000					\$3,947,000
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$165,227					\$177,240
Add — Interest requirements on bonds					20,000					20,000
Total Earnings Available for Capital					\$185,227					\$197,240
<u>Investors' Appraisal Of Risks Of Capital</u>					4.71%					5.00%

Note: (a) \$100 par in 1937. 1937 quotations from National Quotation Bureau —  
1938 quotations from Poor's Utility Manual.

[fol. 13418]

Appendix C  
Page 20Stamford Water Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
(a) Capital Stock (\$20 par)	100,000 shs.	44	39	41.50	\$4,150,000	100,000 shs.	44	38	41.00	\$4,100,000
1st Mtge. 5's 1952	\$400,000	127	113	120.00	480,000	\$400,000	129 1/2	117	125	493,000
Total Indicated Market Value					\$4,630,000					\$4,593,000
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$191,289					\$185,268
Add — Interest requirements on bonds					20,000					20,000
Total Earnings Available for Capital					\$211,289					\$205,268
<u>Investors' Appraisal Of Risks Of Capital</u>					4.56%					4.47%

Note: (a) 1939 quotations from Poor's Utility Manual — 1940 quotations from  
National Quotation Bureau

Stanford Water Company

1941

Outstanding Dec. 31, 1940	Price Range to Aug. 31		Value
	High	Low	
100,000 shs.	44 1/2	40	\$4,225,000
\$400,000	129	123	504,000
			<u>\$4,729,000</u>

Indicated Market Value Of Capital

(a) Capital Stock (\$20 par.)  
1st Mtge. 5's, 1952

Total Indicated Market Value

Earnings Available For Capital

Net Income for year ended December 31, 1940,  
as reported

Add: Interest requirements on bonds

Total Earnings Available for Capital

\$185,268  
20,000

\$205,268Investors' Appraisal Of Risks Of Capital

4.34%

Note: (a) Quotations from National Quotation Bureau.

Bangor Hydro-Electric Company

1937

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
Common Stock (\$25 par)	24 1/4	17	20.63	\$4,477,123
7% Cum. Pfd. (\$100 par)	137 1/2	110	123.75	3,093,750
6% Cum. Pfd. (\$100 par)	126	105	115.50	2,517,785
1st Mtge. 3 3/4's, 1966	110	103	106.50	7,570,020
(a) 1st Mtge. 3 1/2's, 1963				
Total Indicated Market Value				\$17,658,678

Indicated Market Value Of Capital

Common Stock (\$25 par)	217,020 shs.	24 1/4	17	20.63	\$4,477,123
7% Cum. Pfd. (\$100 par)	25,000 shs.	137 1/2	110	123.75	3,093,750
6% Cum. Pfd. (\$100 par)	21,799 shs.	126	105	115.50	2,517,785
1st Mtge. 3 3/4's, 1966	\$7,108,000	110	103	106.50	7,570,020
(a) 1st Mtge. 3 1/2's, 1963					

Total Indicated Market Value

\$17,658,678

Earnings Available For Capital

Net Income for years ended December 31, as reported	\$681,917
Add: Interest on Funded Debt	266,550
Amortization of Debt Discount, Premium and Expense -- net	16,531

Total Earnings Available for Capital

\$964,998

Investors' Appraisal Of Risk Of Capital

5.46%

Note: (a) Price estimated.. Sold privately in March, 1938, at 102 3/4.

Bangor Hydro-Electric Company

1939

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
Common Stock (\$25 par)	23	19	21.00	\$4,557,420
7% Cum. Pfd. (\$100 par)	140	130	135.00	3,375,000
6% Cum. Pfd. (\$100 par)	112	108	110.00	2,397,890
1st Mtge. 3 3/4's, 1966	112 1/4	105	108.63	7,721,420
(a) 1st Mtge. 3 1/2's, 1963			104.00	624,000
Total Indicated Market Value				\$18,675,730

Indicated Market Value Of Capital

Common Stock (\$25 par)	217,020 shs.	23	19	21.00	\$4,557,420
7% Cum. Pfd. (\$100 par)	25,000 shs.	140	130	135.00	3,375,000
6% Cum. Pfd. (\$100 par)	21,799 shs.	112	108	110.00	2,397,890
1st Mtge. 3 3/4's, 1966	\$7,108,000	112 1/4	105	108.63	7,721,420
(a) 1st Mtge. 3 1/2's, 1963	600,000			104.00	624,000

Total Indicated Market Value

\$18,675,730

Earnings Available For Capital

Net Income for years ended December 31, as reported	\$672,185
Add: Interest on Funded Debt	287,550
Amortization of Debt Discount, Premium and Expense -- Net	16,394

Total Earnings Available for Capital

\$976,129

Investors' Appraisal Of Risks Of Capital

5.23%

Note: (a) Prices estimated: Sold privately in March, 1938, at 102 3/4.

1938

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
Common Stock (\$25 par)	21 1/2	16 1/4	18.88	\$4,097,338
25,000 shs.	131	118	124.50	3,112,500
21,799 shs.	114	102	108.00	2,354,292
\$7,108,000	109 1/2	105	107.25	7,623,330
600,000			102.75	616,500
Total Indicated Market Value				\$17,803,960

217,020 shs.	21 1/2	16 1/4	18.88	\$4,097,338
25,000 shs.	131	118	124.50	3,112,500
21,799 shs.	114	102	108.00	2,354,292
7,108,000	109 1/2	105	107.25	7,623,330
600,000			102.75	616,500

\$17,803,960

1940

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
Common Stock (\$25 par)	22 1/2	18	20.25	\$4,394,555
25,000 shs.	140	132	136.00	3,400,000
21,799 shs.	114	108	111.00	2,419,689
\$7,108,000	113 1/2	108	110.75	7,872,110
600,000			105.00	630,000
Total Indicated Market Value				\$18,716,454

217,020 shs.	22 1/2	18	20.25	\$ 4,394,555
25,000 shs.	140	132	136.00	3,400,000
21,799 shs.	114	108	111.00	2,419,689
7,108,000	113 1/2	108	110.75	7,872,110
600,000			105.00	630,000

\$18,716,454

Earnings Available For Capital

Net Income for years ended December 31, as reported	\$723,168
Add: Interest on Funded Debt	287,550
Amortization of Debt Discount, Premium and Expense -- Net	16,448

Total Earnings Available for Capital

\$1,027,166

Investors' Appraisal Of Risks Of Capital

5.49%

4462

Bangor Hydro-Electric Company

1941

Outstanding Dec. 31, 1940 Adjusted for 1941 financing	Price Range to August 31			Value
	High	Low	Average	
217,020 shs.	21 7/8	18 3/4	20 31	\$4,407,676
25,000 shs.	143	137	140 00	3,500,000
21,799 shs.	115	111	113 00	2,463,287
\$7,108,000	114	111	112 50	7,996,500
600,000			105 00	630,000
500,000			100 00	500,000

\$19,497,463

Total Indicated Market Value

Earnings Available For Capital

Net Income for year ended August 31, 1941, as reported

\$740,988

Add: Fixed charges (includes amortization of debt discount, premium, and expense and small amounts of other additions and deductions not suggested in interim report)

315,091

Total Earnings Available for Capital

\$1,056,079Investors' Appraisal Of Risks Of Capital

5.42%

Notes: (a) Quotations from National Quotation Bureau.

(b) Price used is call price. Sold privately in March, 1938, at 102 3/4.

(c) Price estimated. Sold privately in March, 1941.

[fol. 13423]

Appendix C  
Page 25Boston Edison Company

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$100 par)	617,161 shs.	160	115	137.50	\$84,859,638	617,161 shs.	134	108	121.00	\$74,676,481
1st Mtge. Ser. "A" 3 1/2's, 1965	\$53,000,000	109	100 1/2	104.75	55,517,500	\$53,000,000	111 1/2	106	108.75	57,637,500
Total Indicated Market Value					\$140,377,138					\$132,313,981
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$5,381,879					\$5,171,963
Add: Interest on Bonds					1,855,000					1,855,000
Amortization of Bond Discount (net)					269,007					136,543
Total Earnings Available for Capital					\$7,505,886					\$7,163,506
<u>Investors' Appraisal Of Risks Of Capital</u>					5.35%					5.41%

[fol. 13424]

Appendix C  
Page 26Boston Edison Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
(a) Capital Stock	617,164 shs.	159 3/4	107	143.38	\$88,488,974	2,468,656 shs.	36 3/4	30 3/4	33.75	\$83,317,140
1st Mtge. Ser. "A" 3 1/2's, 1965	\$53,000,000	112 1/2	103 1/2	108.00	57,240,000					
" " 2 3/4's, 1970						\$53,000,000	Offered 12/10/40 at 103.53			54,870,900
Total Indicated Market Value					\$145,728,974					\$138,188,040
<u>Earnings Available For Capital</u>										
Net Income for Years ended December 31, as reported					\$5,466,890					\$5,900,140
Add: Interest on Bonds					1,855,000					1,855,000
Less: Amortization of Bond Premium					(24,303)					(24,303)
Total Earnings Available for Capital					\$7,297,587					\$7,730,837
<u>Investors' Appraisal Of Risks Of Capital</u>					5.01%					5.59%

Note: (a) \$100 par in 1939 — \$25 par in 1940.  
Parentheses indicate red figures.

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Boston Edison Company

1941

Outstanding Dec. 31, 1940	Price Range to August 31			Value
	High	Low	Average	

Indicated Market Value Of Capital:  
(a) Capital Stock (\$25 par)  
1st Mgt. 2 3/4's, 1970

2,468,650 shs.	34 3/4	26 5/8	30 69	\$75,763,053
\$53,000,000	104 3/8	101	102 69	54,925,700

Total Indicated Market Value

\$130,188,753

Earnings Available For Capital

Net Income for year ended June 30, as reported

\$5,873,049

Add: Interest on funded debt

1,855,000

Less: Amortization of Bond Premium

(24,303)

Total Earnings Available for Capital

\$7,703,746

Investors' Appraisal Of Risks Of Capital

58/25

Notes: (a) Listed on Boston Stock Exchange.  
Parentheses indicate red figures.

4465

## Central Hudson Gas &amp; Electric Corporation

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (No par)	1,500,000 shs.	19	11 3/4	15.38	\$23,070,000	1,500,000 shs.	14 1/4	10 3/4	12.50	\$18,750,000
4 1/2% Cum. Pref. (\$100 par)	70,300 shs.	110 1/2	102 1/2	106.50	7,486,950	70,300 shs.	111	107	109.00	7,662,700
Mtge. 3 1/2's, 1965	\$10,765,000	109	102	105.50	11,357,075	\$10,765,000	109 7/8	107	108.44	11,673,566
(a) Mtge. 3 1/2's, 1967	2,500,000			105.50	2,637,500	2,500,000			108.00	2,700,000
Central Hudson Gas & Elec. Co. Mtge. 5's, 1941	975,000	113 1/2	103	108.25	1,055,437	957,000	111	106 1/2	108.75	1,040,737
Total Indicated Market Value					\$45,606,962					\$41,827,003
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$1,740,189					\$1,595,452
Add: Interest on Bonds					451,386					512,250
Amortization of Discount, Expense, & premium on Bonds (Net)					13,000*					13,005
Total Earnings Available for Capital					\$2,204,575					\$2,120,707
<u>Investors' Appraisal Of Risks Of Capital</u>					4.83%					5.07%

Notes: (a) Sold privately during 1937 at 102 — Prices Estimated.  
\* Estimated. Breakdown not available in 1937 report.

## Central Hudson Gas &amp; Electric Corporation

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (No par)	1,500,000 shs.	15	13 1/2	14.25	\$21,375,000	1,500,000 shs.	17 1/4	12 1/2	14.88	\$22,320,000
4 1/2% Cum. Pref. (\$100 par)	70,300 shs.	115 3/4	107	111.38	7,830,014	70,300 shs.	115 3/4	109 1/2	112.63	7,917,889
Mtge. 3 1/2's, 1965	\$10,765,000	118 1/8	104 1/4	111.19	11,969,603	\$10,765,000	109 3/4	106	107.88	11,613,282
(a) Mtge. 3 1/2's, 1967	2,500,000			111.00	2,775,000	2,500,000			107.50	2,687,500
(b) Mtge. 3's, 1970						2,200,000			101.00	2,222,000
Central Hudson Gas & Elec. Co. Mtge. 5's, 1941	955,500	110	103 1/2	106.75	1,019,996	955,500	105 1/2	101	103.75	986,554
Total Indicated Market Value					\$44,969,613					\$47,747,225
<u>Earnings Available For Capital</u>										
Net Income for years ending December 31, as reported					\$1,634,696					\$1,625,427
Add: Interest on Bonds					512,044					550,183
Amortization of Discount, Expense, & premium on Bonds (Net)					13,416					13,414
Total Earnings Available for Capital					2,160,156					2,189,024
<u>Investors' Appraisal Of Risks Of Capital</u>					4.80%					4.58%

Notes: (a) Sold privately during 1937 at 102. Prices Estimated.  
(b) Sold privately during 1940 at 101. Prices Estimated.

## Central Hudson Gas &amp; Electric Corporation

4466

1941

Indicated Market Value Of Capital	Outstanding Dec. 31, 1940 Adjusted for 1941 financing	Price Range to August 31		Value
		High	Low	
(a) Common Stock (No par)	1,500,000 shs.	13 1/4	8 3/4	\$16,500,000
(a) 4 1/2% Cum. Pfd. (\$100 par)	70,300 shs.	115	111	7,943,900
(b) 1st Mtge. 3's, 1971	\$13,265,025		105 00	13,928,250
(c) 1st & Ref. Mtge. 3's, 1970	2,200,000		105 00	2,310,000
Total Indicated Market Value				\$40,682,150
Earnings Available For Capital				
Net Income for year ended June 30, 1941, as reported				\$ 1,433,147
(d) Add: Bond interest, etc.				619,778
Total Earnings Available for Capital				\$ 2,052,925
Investors' Appraisal Of Risks Of Capital				5 05%

Notes: (a) Quotations from National Quotation Bureau.

(b) Sold privately to seven institutional buyers on May 2, 1941, at 405. Proceeds were used to refund 3 1/2's due • 1965 and 1967.

(c) Price estimated. Sold privately in 1940 at 101.

(d) Includes a small amount of interest charged to construction-credit and other interest deductions which were unsegregated in June 30, 1941, report.

[fol. 13429]

Appendix C  
Page 31Cleveland Electric Illuminating Company

1937

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	

Indicated Market Value Of Capital

Common Stock (No Par)	2,324,564 shs.	48 1/4	30 1/2	39.38	\$ 91,541,330
\$4.50 Cum. Pref. (No Par)	254,989 shs.	113	102 3/4	107.88	27,508,213
1st Mtge. 3 3/4's, 1965	\$40,000,000	111 7/8	105 3/4	108.81	43,524,000

Total Indicated Market Value

\$162,573,543

Earnings Available For Capital

Net Income for years ended December 31, as reported  
Add: Interest on Funded Debt

\$7,101,798  
1,500,000

Total Earnings Available for Capital

\$8,601,798

Investors' Appraisal Of Risks Of Capital

5.29%

1938

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	

2,324,564 shs.	39 1/4	30 1/2	34.88	\$81,080,792
254,989 shs.	113	107 1/2	110.25	28,112,537
\$40,000,000	112 1/4	107 1/2	109.88	43,952,000

\$153,145,329

\$6,825,924  
1,500,000

\$8,325,924

5.44%

[fol. 13430]

Appendix C  
Page 32Cleveland Electric Illuminating Company

1939

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	

Indicated Market Value Of Capital

Common Stock (no par)	2,324,564 shs.	44 1/4	34 1/2	39.38	\$91,541,330
\$4.50 Cum. Pref. (no par)	254,989 shs.	115	106 7/8	110.94	28,288,480
1st Mtge. 3 3/4's, 1965	\$40,000,000	111 1/2	105 1/2	108.50	43,400,000
1st Mtge. 3's, 1970					

Total Indicated Market Value

\$163,229,810

Earnings Available For Capital

Net Income for years ended December 31, as reported  
Add: Interest on Funded Debt  
Amortization of Bond Premium on Debt Retired

\$7,332,181  
1,500,000

Total Earnings Available for Capital

\$8,832,181

Investors' Appraisal Of Risks Of Capital

5.41%

1940

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	

2,324,564 shs.	43	37 1/2	40.25	\$93,563,701
254,989 shs.	114 1/2	108	111.25	28,367,526
\$50,000,000	110 1/8	106 1/4	108.19	54,095,000

\$176,026,227

\$8,316,287  
1,500,000  
16,871

\$9,833,158

5.59%

## Cleveland Electric Illuminating Company

1941

Price Range to August 31

Outstanding Dec. 31, 1940	High	Low	Average	Value
2,324,564 shs.	41	35	38.00	\$88,333,432
254,989 shs.	115	110	112.50	28,686,263
\$50,000,000 1st Mtge. 3's, 1970	109 3/4	105	107 3/8	53,600,000
				\$170,700,695

Indicated Market Value Of Capital

- (a) Common Stock (No par)  
 (b) \$4.50 Cum. Pfd. (No par)  
 1st Mtge. 3's, 1970

Total Indicated Market Value

Earnings Available For Capital

- Net Income for year ended June 30, as reported  
 Add: Interest on funded debt  
 Amortization of bond premium

\$8,562,965  
 1,500,000  
 33,742

Total Earnings Available for Capital

\$10,095,807

Investors' Appraisal Of Risks Of Capital

- Notes: (a) Listed on New York Curb Exchange  
 (b) Listed on New York Stock Exchange

5 91 7

## Commonwealth Edison Company

1937

1938

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Capital Stock (\$25 par)	7,779,815 shs.	33 1/4	20 1/2	26.88	\$209,121,427	8,301,370 shs.	28	22 1/8	25.06	\$208,032,332
1st Mtge. "A" 5's, 1953	\$14,980,000	113 3/4	110 1/2	112.13	16,797,374					
" " "B" 5's, 1954	15,000,000	113 1/2	110 1/2	112.00	16,800,000					
" " "C" 4 1/2's, 1956	15,000,000	112 1/2	107 3/4	110.13	16,519,500					
" " "D" 4 1/2's, 1957	15,000,000	112 1/4	107 3/4	110.00	16,500,000					
" " "F" 4's, 1981	84,955,000	108 5/8	102	105.31	89,466,111	\$85,000,000	109 3/4	105	107.38	91,273,000
" " "H" 3 3/4's, 1965	29,500,000	107 3/8	100 1/4	103.81	30,623,950	29,500,000	109 1/8	102 3/4	105.94	31,252,300
" " "I" 3 1/2's, 1968						106,000,000	108 1/4	103 1/4	105.75	105,750,000
Conv. Debs. 3 1/2's, 1958						97,282,200	111 1/4	100	105.63	102,759,188
(a) West. Untd. G. & E. 6 1/2% pref. (\$100 par)	63,758 shs.	106	93	99.50	6,343,921	49,776 shs.	113	94	103.50	5,151,816
(a) West. Untd. G. & E. \$7 Jr. Pref. (\$100 par)	60,430 shs.	105	92	98.50	5,952,355	46,539 shs.	113	93	103.00	4,793,517
(a) Ill. No. Ut. Co. 6% Cum. Pref. (\$100 par)	42,204 shs.	111	92	101.50	4,283,706					
(b) Ill. No. Ut. \$7 Jr. Cum. Pref. (\$100 par)	6,454 shs.			100.00	645,400					
(b) Chic. Dist. Elec. Gen. Co. 6% Cum. Pref. (no par)	33,388 shs.			100.00	3,338,800					
Commonwealth Elec. Co. 5's, 1943	\$ 604,000	114	110	112.00	676,480	\$ 548,000	115	111	113.00	619,240
Pub. Serv. Co. of N. Ill. 1st Mtge. 3 1/2's, 1968						80,000,000	106	103	104.50	83,600,000
P. S. 1st & Ref. 5's, 1956	18,818,000	112 1/8	107 1/4	109.69	20,641,464					
" 1st Lien & Ref. "C" 5's, 1956	8,250,000	105 3/4	103 5/8	104.69	8,636,925					
" " "D" "	11,284,000	105	100	102.50	11,566,100					
" " "E" "	14,975,000	104 1/4	101	102.63	15,368,843					
" " "F" "	39,974,000	104	100 1/2	102.25	40,873,415					
" " "I" "	16,000,000	105 3/4	102	103.88	16,620,800					
Econ. L. & P. Co. 1st Mtge. 5's, 1956	243,000	114	106	110.00	267,300	228,000	120	108	116.00	264,480
Commonwealth Sub. Corp. Debs. "A" 5 1/2's, 1948	19,364,000	104 1/4	99 1/2	101.88	19,728,043					
West. Untd. G. & E. 1st Mtge. "A" 5 1/2's, 1955	24,300,000	105 1/2	102 1/4	103.88	25,242,840	24,300,000	105 3/4	103	104.38	25,364,340
West. Untd. G. & E. 1st Mtge. "B" 5's, 1957	1,500,000	105	103	104.00	1,569,000	1,500,000	105 1/4	100	102.63	1,539,450
Super-Pr. Co. of Ill. 1st Mtge. (1928), 4 1/2's, 1968	10,000,000	106 3/4	102	104.38	10,438,000					
Super-Pr. Co. of Ill. 1st Mtge. (1930), 4 1/2's, 1970	9,833,500	106 3/4	102 1/4	104.50	10,276,008					
Ill. No. Ut. Corp. 1st & Ref. 5's, 1957	9,704,000	108	106	107.00	10,383,280					
Chic. Dist. Elec. Gen. Co. "A" 4 1/2's, 1970	14,950,000	107	103 1/4	105.13	15,716,235					
Chic. Dist. Elec. Gen. Co. "B" 6's, 1961	2,250,000	107	104 1/2	105.75	2,379,375					
(b) Chic. Dist. Elec. Gen. Co. Ser. Deb. 5's, 1942	150,000			100.00	150,000					

## Total Indicated Market Value

\$626,918,052

\$660,399,663

## Earnings Available For Capital

Net Income for years ended December 31, as reported	\$16,202,437	\$19,701,625
Add: Interest on Funded Debt	17,557,842	16,751,563
Amortization of Debt Discount and Expense	1,412,524	1,397,198
Dividends on Preferred Stocks of Subsidiaries	2,170,176	1,127,324
(c) Public common stockholders interest in income of subsidiaries on stocks acquired (for periods prior to acquisition)	1,951,902	28,869
<b>Total Earnings Available for Capital</b>	<b>\$39,294,881</b>	<b>\$39,906,579</b>

## Investors' Appraisal Of Risks Of Capital

6.27%

5.91%

Notes: (a) Quotations from National Quotation Bureau  
(b) Prices estimated

Notes: (c) These amounts have been included in earnings available for capital inasmuch as capital stock issued for minority holdings has been included in outstanding capital as of the year-ends.

[fol. 12433]

Appendix C  
Page 35Commonwealth Edison Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital:</u>										
Capital Stock (\$25 par)	10,471,516 shs.	32 1/8	25 5/8	28 88	\$302,417,382	12,565,140 shs.	33	25 7/8	29 44	\$369,917,722
1st Mtge. "I" 3 1/2's, 1968	\$100,000,000	111 3/8	100	105 69	105,690,000	\$100,000,000	111 3/8	106 3/4	109 06	109,060,000
(a) " " "J" 3 1/4's, 1979	114,500,000			102 00	116,790,000	114,500,000			104 00	119,080,000
Conv. Debs. 3 1/2's, 1958	82,332,900	128 1/4	104 7/8	116 56	95,967,228	29,992,300	130 3/4	109 1/4	120 00	35,990,760
Public Service Co. of No. Illinois										
1st 3 1/2's, 1968	80,000,000	110 1/4	99	104 63	83,704,000	80,000,000	110 1/2	106	108 25	86,600,000
(b) Commonwealth Elec. Co. 5's, 1943	210,000	120	109	114 50	240,450	155,000	115 1/2	109	112 25	173,987
(c) Economy Lt. & Pr. Co. 1st Mtge.										
5's, 1956	228,000	126	115	120 50	274,740	228,000	126	115	120 50	274,740
Total Indicated Market Value					\$705,083,800					\$721,097,209
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$25,414,590					\$29,170,756
Add: Interest on Eunded Debt					14,104,585					11,196,028
Amortization of Debt Discount and Expense					1,525,899					1,500,000
Dividends on Preferred Stocks of Subsidiaries					209,020					
Total Earnings Available for Capital					\$41,254,094					\$41,866,784
<u>Investors' Appraisal Of Risks Of Capital</u>										
					5.85%					5.81%

Notes: (a) Sold privately in 1939 at 102. Prices Estimated.  
 (b) Quotations from Moody's Public Utility Manuals.  
 (c) 1940 " " " " " " " " " " " "

Commonwealth Edison Company

1941

	Outstanding Dec. 31, 1940 Adjusted for 1941 financing	Price Range to August 31			Value
		High	Low	Average	
Indicated Market Value of Capital					
(a) Capital Stock (\$25 par)	12,717,588 shs.	30 1/8	24 1/4	27 19	\$345,791,218
1st Mtge. Bonds, 3 1/2's, 1968	\$90,000,000	110 1/4	107 5/8	108 94	108,940,000
(b) 1st Mtge. Bonds, 3 1/4's, 1979	174,500,000			103 00	117,935,000
Com. Deb. 3 1/2's, 1958	26,181,100	119 3/4	110 1/4	115 00	30,138,265
Pub. Serv. Co. of No. Ill. 1st 3 1/2's, 1968	\$4,000,000	119 3/4	108 3/8	109 56	87,648,000
(c) Commonwealth Elec. Co. 5's, 4 1/4's, 1960	155,000	108	107	107 50	166,625
Economy Lt. & Pwr. Co. 1st Mtge. 5's, 1950	228,000	128	120	124 00	282,720
Total Indicated Market Value					\$600,871,828

Earnings Available For Capital

Net Income for year ended June 30, as reported

Add: Interest on funded debt

Amortization of debt discount and expense

Total Earnings Available for Capital

Investors' Appraisal Of Risks Of Capital

Notes: (a) Listed on New York Stock Exchange. 152,448 shares were issued upon conversion of \$3,811,290 principal amount of Convertible Debentures, 3 1/2's, due 1958.

(b) Price estimated. Sold privately in 1939 at 102.

(c) Quotations from National Quotation Bureau.

\$30,249,385  
11,083,455  
1,533,332  
\$42,866,172  
6.20%

[fol. 13435]

Appendix C  
Page 37Connecticut Power Company

		1937			
	Outstanding	Price Range for Year			
	December 31	High	Low	Average	Value
<u>Indicated Market Value Of Capital</u>					
Common Stock (\$25 par)	662,791 shs.	57	39	48 00	\$31,813,968
(a) 1st Mtge. 5's 1956	455,000	128 3/4	118	123 38	561,379
(b) 1st Gen. "A" 3 3/4's 1965	2,476,000			104 00	2,575,040
(c) 1st Gen. "B" 3 1/4's 1967	2,000,000			102 00	2,040,000
Total Indicated Market Value					\$36,990,387
<u>Income Available For Capital</u>					
Net Income for years ending December 31 as reported					\$1,782,159
Add: Interest Charges, Amortization, etc.					175,986
Total Earnings Available for Capital					\$1,958,145
Investors' Appraisal Of Risks Of Capital					5.29%

Notes: (a) Quotations from Moody's Public Utility Manual.

(b) Sold privately Oct. 1, 1935 to nine Hartford insurance companies at 102. Prices are Call Prices.

(c) Sold privately Jan. 1, 1939 to seven insurance companies at 101. Prices are Call Prices.

[fol. 13436]

Appendix C  
Page 38Connecticut Power Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$25 par)	662,791 shs.	52 1/2	44	48 25	\$31,979,666	662,791 shs.	56 1/2	40	48 25	\$31,979,666
(a) 1st Mtge. 5's 1956	\$ 455,000	127	120	123 50	561,925	\$ 455,000	130	144	127 00	577,850
(b) 1st Gen. "A" 3 3/4's 1965	2,428,000			104 00	2,525,120	2,404,000			104 00	2,500,160
(c) 1st Gen. "B" 3 1/4's 1967	1,961,000			102 00	2,000,220	1,942,000			102 00	1,980,840
1st Gen. "C" 3 1/4's 1975						4,000,000	112	110	111 00	4,440,000
Total Indicated Market Value					<u>\$37,066,931</u>					<u>\$41,478,516</u>
<u>Earnings Available For Capital</u>										
Net Income for years ending December 31, as reported					\$1,834,527					\$1,798,351
Add: Interest Charges, Amortization, etc.					186,283					206,671
Total Earnings Available for Capital					<u>\$2,020,810</u>					<u>\$2,005,022</u>
Investors' Appraisal Of Risks Of Capital					5.45%					4.83%

Notes: (a) 1939 Quotations from Moody's Public Utility Manual.

(b) Sold privately Oct. 1, 1935 to nine Hartford insurance companies at 102. Prices used are Call Prices.

(c) Sold privately Jan. 1, 1937 to seven insurance companies at 101. Prices used are Call Prices.

Connecticut Power Company

1941

Outstanding Dec. 31, 1940 Adjusted for 1941 financing	Price Range to August 31			Value
	High	Low	Average	
662,791 sha.	54 3/4	37	45.88	\$30,408,851
455,000	133	127	130.00	591,500
2,404,000			104.00	2,500,160
1,922,020			102.00	1,960,440
4,000,000	111	107	109.00	4,360,000
				<u>\$39,820,951</u>

Indicated Market Value Of Capital

- (a) Common Stock (\$25 par)  
1st Mtge. 5's, 1936  
(b) 1st & Gen. "A" 3 3/4's 1965  
(c) 1st & Gen. "B" 3 1/4's, 1967  
1st & Gen. "C" 3 1/4's, 1975

Total Indicated Market ValueEarnings Available For Capital

Net Income for year ended Dec. 31, 1940, as reported  
Add: Interest charges, amortization, etc.

Total Earnings Available for CapitalInvestors' Appraisal Of Risks Of Capital

5.04%

Notes: (a) Quotations from National Quotation Bureau.

(b) Price used is call price. Sold privately Oct. 1, 1935, to nine Hartford Insurance Companies at 102.

(c) Price used is call price. \$20,000 called July 1, 1941, at 102. These bonds were sold privately Jan. 1, 1937, to seven insurance companies at 101.

## Consolidated Edison Company Of New York, Inc.

1937

1938

## Indicated Market Value Of Capital

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
Common Stock (no par)	11,471,527 shs.	49 7/8	21 1/8	35.50	\$407,239,209	11,471,527 shs.	34 1/4	17	25.63	\$294,015,237
\$5 Cum. Pref. Stock (no par)	2,181,915 shs.	108	92	100.00	218,191,500	2,185,311 shs.	104	88 7/8	96.44	210,751,393
20 Yr. Debs. 3 1/2's, 1956	\$35,000,000	107 5/8	99 3/4	103.69	36,291,500	\$35,000,000	105 5/8	97 3/8	101.50	35,525,000
20 Yr. Debs. 3 1/2's, 1958						39,000,000	105 7/8	99 1/2	102.69	30,807,000
10 Yr. Debs. 3 1/2's, 1948						60,000,000	107	103 1/2	105.06	63,036,000
10 Yr. Debs. 3 1/4's, 1946	35,000,000	106 3/4	102 1/4	104.50	36,575,000	35,000,000	106 7/8	100	103.44	36,204,000
N.Y. Edison 3 1/4's, 1965	54,990,000	105 1/2	97	101.25	55,677,375	54,990,000	108 1/2	101	104.75	57,602,025
" " " 3 1/4's, 1966	30,000,000	105 5/8	97 5/8	101.63	30,489,000	30,000,000	108 1/2	101 1/2	105.00	31,500,000
N.Y. Gas & Elec. Light, Heat & Power Co. 5's, 1948	15,000,000	125 1/2	116 3/4	121.13	18,169,500	15,000,000	125	121 1/2	123.23	18,487,500
N.Y. Gas & Elec. Light, Heat & Power Co. 4's, 1949	20,819,000	117 1/2	109 5/8	113.56	23,642,056	20,803,000	117 1/2	112 5/8	115.06	23,935,932
Edison Elec. Ill. Co. of N.Y. 5's, 1995	2,188,000	139 1/2	131	135.25	2,959,270	2,188,000	134 1/8	131 1/2	132.81	2,905,883
New Amsterdam Gas 5's, 1948	9,583,000	121 1/2	113	117.25	11,552,643	9,840,000	119	115 1/2	117.25	11,537,400
N.Y. East River Gas 5's, 1944	3,500,000	117 1/2	110	113.75	3,981,250	3,500,000	114	104	109.00	3,815,000
" " " " 5's, 1945	1,500,000	117	110	113.50	1,702,500	1,500,000	114	110	112.00	1,680,000
Consolidated Gas of N.Y. 4 1/2's, 1951	60,000,000	108 1/2	105 1/4	106.88	64,128,000					
N.Y. Steam 5's, 1956	8,700,000	107 1/2	98	102.75	8,939,250					
Westchester Lighting Co. 5's, 1950	8,684,000	127 1/8	116	121.56	10,556,270	8,684,000	123	121 1/4	122.13	10,605,769
" " " 3 1/2's, 1967	25,000,000	102 1/2	96 3/8	99.44	24,860,000	25,000,000	106 1/8	98 1/2	102.31	25,577,500
N.Y. & Westchester Ltg. Co. 4's, 2004	9,993,000	104 1/2	100	102.25	10,217,843	9,993,000	105 3/4	103 3/4	104.75	10,467,668
" " " " 5's, 1954	2,500,000	113 1/2	110 1/2	112.00	2,800,000	2,500,000	114	110 5/8	112.31	2,807,750
N.Y. Steam Corp. 3 1/2's, 1963						27,982,000	102	110 3/4	101.38	28,368,152
(a) Yonkers Elec. Lt. & Pr. 3 1/2's, 1950						9,515,000			101.75	9,681,513
N.Y. Steam Corp. "A" 6's, 1947	5,605,500	108 5/8	102 1/4	105.44	5,910,439					
" " " 5's, 1951	12,758,000	107 3/8	98 3/4	103.06	13,148,395					
Kings Co. Elec. Lt. & Pr. Co. 6's, 1997	5,123,000	161	146 1/2	153.75	7,876,613	5,123,000	165	150	157.50	8,068,725
Edison Elec. Ill. Co. of Bklyn. 4's, 1939	4,240,000	107 1/2	103 1/8	105.31	4,465,144					
Brooklyn Edison 3 1/2's, 1966	55,000,000	105 3/4	97 3/4	101.75	55,962,500	55,000,000	108 3/4	101	104.88	57,684,000
(b) " " " 3's, 1968						4,240,000			100.00	4,240,000
(c) N.Y. & Queens E.L. & P. Co. 3 1/4's, 1968						10,000,000			101.00	10,100,000
" " " " 3 1/2's, 1965	24,970,000	109 1/8	101 3/8	105.25	26,280,925	24,970,000	109	106	107.50	26,842,750
White Plains Light 5's, 1938	335,000	106	100 1/2	103.25	345,888					
Total Indicated Market Value					\$1,081,962,070					\$1,016,256,197

## Earnings Available For Capital

Net Income for years ended December 31, as reported	\$35,662,563	\$34,893,619
Less — Minority Interest	88,644	
	35,573,919	34,893,619
Add: Interest on Funded Debt	16,269,576	17,961,912
Amortization of Debt Discount, Other Interest, etc.	953,651	1,037,674
Total Earnings Available for Capital	\$52,797,146	\$53,893,205

## Investors' Appraisal Of Risks Of Capital

4.88%

5.30%

Notes: (a) Sold privately in August, 1938, to three insurance companies at 101 3/4. Prices estimated.

(b) Sold privately in December, 1938, to three insurance companies at 100 proceeds being used to retire an equal amount of Edison Electric Illuminating Co. of Brooklyn bonds on January 1, 1939.

(c) Sold privately in May, 1938, to insurance companies at 101. Prices estimated.

## Consolidated Edison Company Of New York, Inc.

1939

1940

## Indicated Market Value Of Capital

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
Common Stock (no par)	11,471,027 shs.	35	27	31.00	\$355,601,837	11,471,027 shs.	32 7/8	21 3/8	27.13	\$311,208,963
\$5 Cum. Pref. Stock (no par)	2,184,590 shs.	108 1/2	101 3/4	105.13	229,665,947	2,184,590 shs.	110 1/8	97 1/4	103.69	226,520,137
20 Yr. Debs. 3 1/2's, 1956	\$35,000,000	108	98 3/4	103.38	36,183,000	\$35,000,000	107 1/8	93	105.06	36,771,000
20 Yr. Debs. 3 1/2's, 1958	30,000,000	109 3/8	98 3/4	104.06	31,218,000	30,000,000	109 3/8	105 5/8	107.50	32,250,000
10 Yr. Debs. 3 1/2's, 1948	60,000,000	108 1/2	99	103.75	62,250,000	60,000,000	108 1/2	104 1/4	106.38	63,828,000
10 Yr. Debs. 3 1/4's, 1946	35,000,000	107 5/8	99 7/8	103.75	36,312,500	35,000,000	107 1/2	103 1/4	105.38	36,883,000
N.Y. Edison 3 1/4's, 1965	54,990,000	110 3/4	100	105.38	57,948,462	54,990,000	110 5/8	104 1/2	107.56	59,147,244
" " 3 1/4's, 1966	30,000,000	112 1/2	100	106.25	31,875,000	30,000,000	111	105	108.00	32,400,000
N.Y. Gas & Elec. Light, Heat & Power Co. 5's, 1948	15,000,000	126 3/4	116 1/8	121.44	18,216,000	15,000,000	126 1/2	120 5/8	123.56	18,534,000
N.Y. Gas & Elec. Light, Heat & Power Co. 4's, 1949	20,803,000	119 1/4	108 1/2	113.88	23,690,456	20,803,000	119 1/4	113 1/2	116.38	24,210,531
Edison Elec. Ill. Co. of N.Y. 5's, 1995	2,188,000	151	139	145.00	3,172,600	2,188,000	149 1/2	141	145.25	3,178,070
New Amsterdam Gas 5's, 1948	9,840,000	123 1/2	114	118.75	11,685,000	9,834,000	122 3/8	115	118.69	11,671,975
N.Y. East River Gas 5's, 1944	3,500,000	115 1/2	105 1/2	110.50	3,867,500	3,500,000	114 1/2	108	111.25	3,893,750
" " " 5's, 1945	1,500,000	116	105 1/2	110.75	1,661,250	1,500,000	116 1/2	109	112.75	1,691,250
Westchester Ltg. Co. 5's, 1950	8,684,000	130	118	124.00	10,768,160	8,684,000	128 1/4	120	124.13	10,779,449
" " " 3 1/2's, 1967	25,000,000	110	100	105.00	26,250,000	25,000,000	110 1/4	104 1/8	107.19	26,797,500
N.Y. & Westchester Ltg. Co. 4's, 2004	9,993,000	106 1/2	101 1/2	104.00	10,392,720	9,993,000	106 5/8	102	104.31	10,423,698
" " " 5's, 1954	2,500,000	113 1/2	111 3/4	112.63	2,815,750	2,500,000	115 1/4	111 3/4	113.50	2,837,500
N.Y. Steam Corp. 3 1/2's, 1963	27,982,000	107 1/4	94 1/2	100.88	28,225,242	27,982,000	109 3/8	101	105.19	29,434,266
(a) Yonkers Elec. Lt. & Pr. 3 1/2's, 1950	9,515,000			102.00	9,705,300	9,515,000			102.00	9,705,300
Kings Co. Elec. Lt. & Pr. Co. 6's, 1997	5,123,000	170	150	160.00	8,196,800	5,123,000	168	157	162.50	8,324,875
Brooklyn Edison 3 1/4's, 1966	55,000,000	111	100 5/8	105.79	58,184,500	55,000,000	110 7/8	105	107.94	59,367,000
(b) " " 3's, 1968	4,240,000			101.00	4,282,400	4,240,000			102.00	4,324,800
(c) N.Y. & Queens E.L. & P. Co. 3 1/4's, 1968	10,000,000			101.90	10,100,000	10,000,000			102.00	10,200,000
" " " 3 1/2's, 1965	24,970,000	110 1/2	102 1/2	106.50	26,593,050	24,970,000	110 1/2	107	108.75	27,154,875
(d) Consol. Tel. & Elec. Subway Co. 3 1/4's, 1960						13,710,000			102.22	14,014,362

Total Indicated Market Value

\$1,098,864,474

\$1,075,554,545

## Earnings Available For Capital

Net Income for years ended December 31, as reported	\$36,428,119	\$36,454,864
Add: Interest on Funded Debt	17,275,590	17,693,767
Amortization of Debt Discount, Other Interest, etc.	1,201,205	946,520

Total Earnings Available for Capital

\$54,904,914

\$55,095,151

## Investors' Appraisal Of Risks Of Capital

5.00%

5.12%

Notes: (a) Sold privately in August, 1938, to three insurance companies at 101 3/4. Prices estimated.

(b) Sold privately in December, 1938, to three insurance companies at 100 proceeds being used to retire an equal amount of Edison Electric Illuminating Co. of Brooklyn bonds on January 1, 1939.

(c) Sold privately in May, 1938, to insurance companies at 101. Prices estimated.

(d) Sold privately in January, 1940, to insurance companies at a price to yield 3.10% or approximately 102.22.

Consolidated Edison Company Of New York, Inc.

	Outstanding Dec. 31, 1940	1941 Price Range to August 31			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Common Stock (no par)	11,471,027 shs.	23 3/8	17 1/4	20.31	\$232,976,558
(a) \$5 Cum. Pref. Stock (no par)	2,184,590 shs.	107 3/8	95	101.19	221,058,662
20 Yr. Debs. 3 1/2's, 1956	\$35,000,000	107 5/8	103 1/2	105.56	36,946,000
20 Yr. Debs. 3 1/2's, 1958	30,000,000	111 3/4	106 1/4	109.00	32,700,000
10 Yr. Debs. 3 1/2's, 1948	60,000,000	107	104 3/4	105.88	63,528,000
10 Yr. Debs. 3 1/4's, 1946	35,000,000	105 1/4	103 1/4	104.25	36,487,500
N. Y. Edison Co. 3 1/4's, 1965	54,990,000	110	106 3/4	108.38	59,598,162
"    "    3 1/4's, 1966	30,000,000	110 1/2	107 1/8	108.81	32,643,000
N. Y. Gas & Electric Light Heat & Power Co. 5's, 1948	15,000,000	125 3/8	120 1/4	122.81	18,421,500
N. Y. Gas & Electric Light Heat & Power Co. 4's, 1949	20,803,000	118 3/4	114 1/4	116.50	24,235,495
Edison Elec. Ht. Co. of N. Y. 5's, 1995	2,188,000	152	150	151.00	3,303,880
New Amsterdam Gas Co. 5's, 1948	9,834,000	121 1/2	117 1/4	119.38	11,739,829
N. Y. & East River Gas Co. 5's, 1944	3,500,000	112	108	110.00	3,850,000
"    "    "    5's, 1945	1,500,000	113	110	111.50	1,672,500
Westchester Lighting Co. 5's, 1950	8,684,000	128 1/2	124 1/8	126.31	10,968,760
"    "    3 1/2's, 1967	25,000,000	110 1/2	107 3/4	109.13	27,282,500
N. Y. & Westchester Light Co. 4's, 2004	9,993,000	106 1/2	103	104.75	10,467,665
"    "    "    5's, 1954	2,500,000	115	114	114.50	2,862,500
N. Y. Steam Corp. 3 1/2's, 1963	27,982,000	108 3/4	105 1/2	107.13	29,977,117
(b) Yonkers Elec. Light & Power Co. 3 1/2's, 1950	9,515,000			102.00	9,705,300
Kings County Elec. Lt. & Power Co. 6's, 1997	5,123,000	170	161	165.50	8,478,565
Brooklyn Edison Co. 3 1/4's, 1966	55,000,000	110 3/4	103 1/4	107.00	58,850,000
(c)    "    "    "    3's, 1968	4,240,000			102.00	4,324,800
(d) N. Y. & Queens E. L. & P. Co. 3 1/4's, 1965	10,000,000			102.00	10,200,000
"    "    "    3 1/2's, 1965	24,970,000	111 1/2	108 1/2	110.00	27,467,000
(e) Consol. Tel. & Elec. Subway Co. 3 1/4's, 1960	13,710,000			102.22	14,044,362
Total Indicated Market Value					\$993,759,658
<u>Earnings Available For Capital</u>					
Net Income for year ended June 30, as reported					\$34,590,306
Add: Interest on Funded Debt					17,720,577
Amortization of Debt Discount, Other Interest, etc.					813,277
Total Earnings Available for Capital					\$53,124,160
<u>Investors' Appraisal Of Risks Of Capital</u>					5.35%

Notes: (a) Listed on New York Stock Exchange.

(b) Price estimated. Sold privately in August, 1938 to three insurance companies at 101 3/4.

(c) Price estimated. Sold privately in December, 1938 to insurance companies at 101.

(d) Price estimated. Sold privately in May, 1938 to insurance companies at 101.

(e) Price estimated. Sold privately in January, 1940 to insurance companies at a price to yield 3.10% or approximately 102.22.

## Consolidated Gas, Electric Light &amp; Power Company Of Baltimore

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common Stock (No par)	1,167,397 shs.	89 1/2	60	74.75	\$87,262,926	1,167,397 shs.	74	55	64.50	\$75,297,107
5% Pref. Series "A"	223,063 shs.	115	110	112.50	25,094,588	223,063 shs.	117	112 3/4	114.88	25,625,477
(a) 1st Ref. Mtge. S.F.-K-3 3/4's, 1964	18,000,000			105.00	18,900,000					
(b) 1st Ref. Mtge. S.F.-L-3 3/4's, 1960	10,440,000			106.00	11,066,400					
(c) 1st Ref. Mtge. S.F.-M-3 1/2's, 1965	7,076,000			106.00	7,500,560	7,076,000			106.00	7,500,560
1st Ref. Mtge. S.F.-N-3 1/4's, 1971	22,687,000	104 1/2	98 1/8	101.31	22,984,200	22,145,000	110 3/4	103 3/4	107.25	23,750,513
(d) 1st Ref. Mtge. S.F.-O-3 1/4's, 1968						28,440,000			107.00	30,430,800
1st Consol. Gas Co. of Balt. City 4 1/2's, 1954	6,100,000	125 5/8	118	121.81	7,430,410	6,100,000	125 1/2	120 3/4	123.13	7,510,930
Consol. Gas Co. of Balt. City 5's, 1939	3,400,000	109 3/4	105	107.38	3,650,920	3,400,000	106 7/8	102 1/8	104.50	3,553,000
(e) Indebtedness to Mayor, City Council of Laurel, Maryland	25,000			100.00	25,000	22,500			100.00	22,500
<b>Total Indicated Market Value</b>					<b>\$183,915,004</b>					<b>\$173,690,887</b>
<b>Earnings Available For Capital</b>										
Net Income for years ending December 31, as reported					\$6,516,403					\$5,853,140
Add: Interest & Amortization of Bonds					2,646,359					2,463,075
<b>Total Earnings Available for Capital</b>					<b>\$9,162,762</b>					<b>\$8,316,215</b>
<b>Investors' Appraisal Of Risks Of Capital</b>					<b>4.98%</b>					<b>4.79%</b>

- Notes: (a) Sold privately in Nov. 1934 to a small group of insurance companies. Price used is call price.  
 (b) Sold privately in Apr. 1935 to a small group of insurance companies. Price used is call price.  
 (c) Sold privately in July 1935 to a small group of institutional investors. Price used is call price.  
 (d) Sold privately in June 1938 to a small group of insurance companies. Price used is call price.  
 (e) Prices Estimated.

## Consolidated Gas, Electric Light &amp; Power Company Of Baltimore

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common Stock (No par)	1,167,397 shs.	84 1/4	71	77.63	\$90,625,029	1,167,397 shs.	83 5/8	65 1/2	74.56	\$87,041,120
4 1/2% Pref. Series "B"	222,921 shs.	121 1/2	111	116.25	25,914,566	222,921 shs.	120	114	115.50	25,747,375
4% Pref. Series "C"						68,928 shs.	112 3/4	107 3/4	110.25	7,599,312
(a) 1st Ref. Mtge. S.F.-M-3 1/2's, 1965	\$6,466,000			106.00	6,853,960	\$5,850,000			106.00	6,201,000
1st Ref. Mtge. S.F.-N-3 1/4's, 1971	22,145,000	113	101 7/8	107.43	23,790,374	22,145,000	111 1/2	105	108.25	23,971,982
(b) 1st Ref. Mtge. S.F.-O-3 1/4's, 1968	28,440,000			107.00	30,430,800	28,440,000			108.00	30,715,000
1st Ref. Mtge. S.F.-P-3's, 1969	7,000,000	108	98	103.00	7,210,000	7,000,000	111 1/4	104 1/2	107.88	7,551,600
Consol. Gas Co. of Balt. City 4 1/2's, 1954	6,100,000	131	120	125.50	7,655,500	6,100,000	130	124 1/2	127.25	7,762,250
(c) Indebtedness to Mayor, City Council of Laurel, Maryland	20,000			100.00	20,000	17,500			100.00	17,500
<b>Total Indicated Market Value</b>					<b>\$192,500,229</b>					<b>\$196,607,319</b>
<b>Earnings Available For Capital</b>										
Net Income for years ending Dec. 31, as reported					\$6,805,831					\$6,255,324
Add: Interest & Amortization on Bonds					2,361,548					2,345,310
Amortization of Capital Stock expense in connection with issuance of preferred stock					73,192					168,528

Consolidated Gas, Electric Light & Power Company Of Baltimore

	Outstanding December 31	1937 Price Range for Year			Value	Outstanding December 31	1938 Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (No par)	1,167,397 shs.	89 1/2	60	74.75	\$87,262,926	1,167,397 shs.	74	55	64.50	\$75,297,107
5% Pref. Series "A"	223,063 shs.	115	110	112.50	25,094,588	223,063 shs.	117	112 3/4	114.88	25,625,477
(a) 1st Ref. Mtge. S.F.-K-3 3/4's, 1964	18,000,000			105.00	18,900,000					
(b) 1st Ref. Mtge. S.F.-L-3 3/4's, 1960	10,440,000			106.00	11,066,400					
(c) 1st Ref. Mtge. S.F.-M-3 1/2's, 1965	7,076,000			106.00	7,500,560	7,076,000			106.00	7,500,560
1st Ref. Mtge. S.F.-N-3 1/4's, 1971	22,687,000	104 1/2	98 1/8	101.31	22,984,200	22,145,000	110 3/4	103 3/4	107.25	26,750,513
(d) 1st Ref. Mtge. S.F.-O-3 1/4's, 1968						28,440,000			107.00	30,430,800
Consol. Gas Co. of Balt. City 4 1/2's, 1954	6,100,000	125 5/8	118	121.81	7,430,410	6,100,000	125 1/2	120 3/4	123.13	7,510,930
Consol. Gas Co. of Balt. City 5's, 1939	3,400,000	109 3/4	105	107.38	3,650,920	3,400,000	106 7/8	102 1/8	104.50	3,553,000
(e) Indebtedness to Mayor, City Council of Laurel, Maryland	25,000			100.00	25,000	22,500			100.00	22,500
Total Indicated Market Value					\$183,915,004					\$173,690,887
<u>Earnings Available For Capital</u>										
Net Income for years ending December 31, as reported					\$6,516,403					\$5,853,140
Add: Interest & Amortization of Bonds					2,646,359					2,463,075
Total Earnings Available for Capital					\$9,162,762					\$8,316,215
Investors' Appraisal Of Risks Of Capital					4.98%					4.79%

Notes: (a) Sold privately in Nov. 1934 to a small group of insurance companies. Price used is call price.  
 (b) Sold privately in Apr. 1935 to a small group of insurance companies. Price used is call price.  
 (c) Sold privately in July 1935 to a small group of institutional investors. Price used is call price.  
 (d) Sold privately in June 1938 to a small group of insurance companies. Price used is call price.  
 (e) Prices Estimated.

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Appendix C  
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Consolidated Gas, Electric Light & Power Company Of Baltimore

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (No par)	1,167,397 shs.	84 1/4	71	77.63	\$90,625,029	1,167,397 shs.	83 5/8	65 1/2	74.56	\$87,041,120
4 1/2% Pref. Series "B"	222,921 shs.	121 1/2	111	116.25	25,914,566	222,921 shs.	120	111	115.50	25,747,375
4% Pref. Series "C"						68,928 shs.	112 3/4	107 3/4	110.25	7,599,312
(a) 1st Ref. Mtge. S.F.-M-3 1/2's, 1965	\$6,466,000			106.00	6,852,960	\$5,850,000			106.00	6,201,000
1st Ref. Mtge. S.F.-N-3 1/4's, 1971	22,145,000	113	101 7/8	107.43	23,790,374	22,145,000	111 1/2	105	108.25	23,971,962
(b) 1st Ref. Mtge. S.F.-O-3 1/4's, 1968	28,440,000			107.00	30,430,800	28,440,000			108.00	30,715,000
1st Ref. Mtge. S.F.-P-3's, 1969	7,000,000	108	98	103.00	7,210,000	7,000,000	111 1/4	104 1/2	107.88	7,551,600
Consol. Gas Co. of Balt City 4 1/2's, 1954	6,100,000	131	120	125.50	7,655,500	6,100,000	130	124 1/2	127.25	7,762,250
(c) Indebtedness to Mayor, City Council of Laurel, Maryland	20,000			100.00	20,000	17,500			100.00	17,500
Total Indicated Market Value					\$192,500,229					\$196,607,319
<u>Earnings Available For Capital</u>										
Net Income for years ending Dec. 31, as reported					\$6,805,831					\$6,255,324
Add: Interest & Amortization on Bonds					2,361,548					2,345,310
Amortization of Capital Stock expense in connection with issuance of preferred stock					73,181					168,528
Total Earnings Available for Capital					\$9,240,571					\$8,769,162
Investors' Appraisal Of Risks Of Capital					4.80%					4.46%

Notes: (a) Sold Privately in July 1935 to a small group of institutional investors. Price used is call price.  
 (b) Sold privately in June 1938 to a small group of insurance companies. Price used is estimated.  
 (c) Prices estimated.

Consolidated Gas Electric Light & Power Company Of Baltimore

- 1941 -

	Outstanding Dec. 31, 1940 Adjusted for 1941 financing	Price Range to August 31			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Common Stock (No par)	1,167,397 shs.	73	55 3/4	64 38	\$75,157,019
(a) 4 1/2% Pfd. Series "B"	222,921 shs.	119 1/4	115	117 12	26,108,508
(a) 4% Pfd. Series "C"	68,928 shs.	116 1/4	105	107 62	7,418,031
(b) 1st Ref. Mtge. S.F. N 3 1/4's, 1971	\$21,495,000	111 1/2	107 3/4	109 62	23,562,819
(d) 1st Ref. Mtge. S.F. O 3 1/4's, 1968	28,440,000			109 00	30,999,600
1st Ref. Mtge. S.F. P 3's, 1969	7,000,000	111	106	108 50	7,595,000
(c) 1st Ref. Mtge. S.F. Q 2 3/4's, 1976	12,000,000	105 1/8	101	103 06	12,367,200
Consol. Gas Co. of Balt. City 4 1/2's, 1954	6,100,000	128 1/4	122 5/8	125 44	7,651,840
(e) Indebtedness to Mayor, City Council of Laurel, Maryland	17,500			100 00	17,500
Total Indicated Market Value					<u>\$190,877,517</u>
<u>Earnings Available For Capital</u>					
Net income for year ended June 30, as reported					\$6,125,777
Add: Interest and amortization on bonds					2,424,963
(f) Other Deductions					185,298
Total Earnings Available for Capital					<u>\$8,736,038</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					
4.58%					

Notes: (a) Listed on New York Curb Exchange

(b) Company called for payment Sept. 10, 1941 at 107 and interest, \$650,000 of its 1st Ref. Mtge. N 3 1/4's, 1971.

(c) Offered in Jan. 1941, \$12,000,000 at 103 1/2 and interest. \$5,850,000 of proceeds used to refund like principal amount of Series "M" 3 1/2's, 1965.

(d) Price estimated. Sold privately in June 1938 to a small group of insurance companies.

(e) Price estimated.

(d) Includes an undetermined amount of amortization, during the last six months of 1940, of Capital Stock Expense in connection with issuance of preferred stock. Amount is not set out in interim report.

## Detroit Edison Company

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	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$100 par)	1,266,985 shs.	146 1/2	88 5/8	117 56	\$148,946,757	1,266,461 shs.	115 1/8	76	95 56	\$121,023,013
Ref. Mtge. Series "D" 4 1/2's, 1961	\$50,000,000	116 1/4	111 1/2	113 88	56,940,000	\$50,000,000	114 1/4	111 3/8	112 81	56,405,000
" " " " "F" 4's, 1965	49,000,000	111 1/2	105 7/8	108 69	58,258,100	49,000,000	112 1/4	107	109 63	53,718,700
" " " " "G" 3 1/2's, 1966	20,000,000	109 1/2	101	105 25	21,050,000	35,000,000	111 1/4	103 1/2	107 38	37,883,000
" " " " "E" 5's, 1952	15,000,000	110 5/8	106 1/4	108 44	16,266,000					
(a) Construction Notes 3 1/4's, 1945						7,500,000			100 00	7,500,000
(b) Great Lakes Power Co. 6's, 1943	320,000	118	112	115 00	368,000	\$20,000	116	112	114 00	364,800
Total Indicated Market Value					\$296,828,857					\$276,594,513
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$ 9,950,937					\$7,833,306
Add: Interest on Funded Debt and Construction Notes					5,679,200					5,733,883
Amortization of Debt Discount					268,828					273,910
Total Earnings Available for Capital					\$15,898,965					\$13,841,099
<u>Investors' Appraisal Of Risks Of Capital</u>										
					5.36%					5.00%

Note: (a) Price estimated

## Detroit Edison Company

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	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$100 par)	1,270,610 shs.	125 1/2	103	114 25	\$145,167,193	1,269,904 shs.	125 1/8	98 1/2	111 81	\$144,987,966
Ref. Mtge. Series "D" 4 1/2's, 1961	\$50,000,000	113	108 1/8	110 56	55,280,000					
" " " " "F" 4's, 1965	49,000,000	112 5/8	105 1/4	108 94	53,380,600	\$49,000,000	111 1/2	107 1/2	109 50	53,655,000
" " " " "G" 3 1/2's, 1966	35,000,000	113	105	109 00	38,150,000	35,000,000	113	108 3/8	110 69	38,741,500
" " " " "H" 3's, 1970						50,000,000	Offered 12/19/40 at 107 25			53,625,000
(a) Construction Notes 3 1/4's, 1945	10,500,000			100 00	10,500,000	10,290,000			106 00	10,250,000
(b) Great Lakes Power Co. 6's, 1943	320,000	118	110	114 00	364,800	320,900	116	107 1/2	111 75	357,300
Total Indicated Market Value					\$302,842,593					\$298,657,066
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$ 9,640,295					\$10,732,734
Add: Interest on Funded Debt and Construction Notes					5,714,471					5,828,783
Amortization of Debt Discount					330,961					407,006
Total Earnings Available for Capital					\$15,685,727					\$16,968,523
<u>Investors' Appraisal Of Risks Of Capital</u>										
					5.18%					5.68%

Notes: (a) Prices estimated

(b) Quotations from Moody's Public Utility Manual for 1940.

Detroit Edison Company

1941

	Price Range to August 31				Value
	High	Low	Average		
Outstanding Dec. 31, 1940					
Adjusted for 1941 financing					
6,349,520 shs.	23 1/4	19 3/4	21 50		\$136,514,680
\$9,000,000	112	108 1/2	110 25		54,022,500
Ref. Mfg. Series "G", 3 1/2's, 1936	112 3/8	109	110 60		38,741,500
Ref. Mfg. Series "H", 3's, 1970	107 3/8	103 1/4	105 31		52,655,000
(b) Construction Notes 2 1/4's, 1945			100 00		7,570,000
Great Lakes Power Co. 6's, 1943	108	105	106 50		340,800

Total Indicated Market Value

\$289,844,480

Earnings Available For Capital

Net income for year ended July 31, as reported  
Add: Interest on funded debt and Construction notes  
Amortization of debt discount and expense

\$11,714,285  
5,763,370  
680,363

Total Earnings Available for Capital

\$18,164,018

Investors' Appraisal Of Risks Of Capital

6.27%

Notes: (a) Listed on New York Stock Exchange. Par value changed from \$100 to \$20 on March 25, 1941. Five new shares were issued for each old one.  
(b) Price estimated. Principal payment of \$2,720,000 made May 1, 1941, and interest rate reduced to 2 1/4% that date.

[fol. 13447]

## Duke Power Company

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	High	Low	Average	Value
		High	Low	Average						
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$100 par)	1,010,049 shs.	79	52	65.50	\$66,158,210	1,010,049 shs.	67 3/4	54	60.88	\$61,491,783
7% Cum. Pfd. (\$100 par)	2,837 shs.	103	95	99.00	280,865	2,837 shs.	105	100	102.50	290,792
(a) 1st & Ref. 3 1/2's, 1967	\$30,000,000			100.00	30,000,000	\$30,000,000			102.00	30,600,000
(b) " " 4's, 1967	8,000,000			104.00	8,320,000	8,000,000			104.00	8,320,000
Total Indicated Market Value					\$104,759,073					\$100,702,575
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$4,660,474					\$4,297,150
Add: Interest on Bonds as computed by Standard & Poor's Corp. (not shown separately in report)					1,370,000					1,370,000
Total Earnings Available for Capital					\$6,030,474					\$5,667,150
Investors' Appraisal Of Risks Of Capital					5.76%					5.63%

Notes: (a) Sold privately in Feb., 1936 at 100 to the Duke Endowment Trusts. Prices used are estimated.  
(b) " " " July, 1935. Prices used are Call Prices.

[fol. 13448]

## Duke Power Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$100 par)	1,010,049 shs.	79	61 1/4	70.13	\$70,834,736	1,010,049 shs.	79 5/8	64	71.81	\$72,531,619
7% Cum. Pfd. (\$100 par)	2,837 shs.	105	105	105.00	297,885	2,837 shs.	105	105	105.00	297,885
(a) 1st & Ref. 3 1/2's, 1967	\$30,000,000			104.00	31,200,000	\$30,000,000			105.00	31,500,000
(b) 1st & Ref. 4's, 1967	8,000,000			104.00	8,320,000	8,000,000			104.00	8,320,000
Total Indicated Market Value					\$110,652,621					\$112,649,504
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$5,619,767					\$5,997,101
Add: Interest on Bonds as computed by Standard & Poor's Corp. (not shown separately in report)					1,370,000					1,370,000
Total Earnings Available for Capital					\$6,989,767					\$7,367,101
<u>Investors' Appraisal of Risks of Capital</u>										
					6.32%					6.54%

Notes: (a) Sold privately in February, 1936, at 100 to the Duke Endowment Trusts. Prices are estimated.  
(b) Sold privately in July, 1935. Price used is Call Price.

Duke Power Company

	Outstanding Dec. 31, 1940	1941 Price Range to August 31			Value
		High	Low	Average	
(a) Common Stock (\$100 par)	1,010,049 shs.	74 1/2	74 1/2	74 50	\$75,248,650
(a) 7% Cum. Pfd. (\$100 par)	2,837 shs.	105	105	105 00	297,885
(b) 1st & Ref. Mfge. 3 1/2's, 1967	\$30,000,000			107 00	32,100,000
(c) 1st & Ref. Mfge. 4's, 1967	8,000,000			104 00	8,320,000
Total Indicated Market Value					\$115,966,535

Earnings Available For Capital

Net Income for year ended Dec. 31, 1940, as reported  
Add: Interest on bonds as computed by S. & P. Corp.  
(not shown separately in report)

\$5,997,101

Total Earnings Available for Capital

1,370,000

Investors' Appraisal of Risks of Capital

\$7,367,101

6 35 4

Notes: (a) Quotations from National Quotation Bureau.  
(b) Price used is call price. Sold privately in February, 1936, at 100 to the Duke Endowment Trusts.  
(c) Price used is call price. Sold privately in July, 1935.

Hartford Electric Light Company

	Outstanding December 31	1937 Market Prices			Value	Outstanding December 31	1938 Market Prices			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$25 par)	840,000 shs.	69 3/4	51 1/2	60 25	\$50,610,000	840,000 shs.	64	50	57.00	\$47,880,000
(a) 30-Yr. Deb., 1937 Series, 3's, 1967	\$3,500,000			100.75	3,526,250	\$3,430,000			101.00	3,464,300
Total Indicated Market Value					<u>\$54,136,250</u>					<u>\$51,344,300</u>
<u>Earnings Available For Capital</u>										
Net Income for years ending Dec. 31 as reported					\$2,698,614					\$2,473,120
Add: Interest on bonds as computed by S. & P. Corp. (not shown separately in report)					78,750					103,425
Total Earnings Available for Capital					<u>\$2,777,364</u>					<u>\$2,576,545</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					5.13%					5.02%

Notes: (a) Sold privately in 1937 at 100 3/4 to six insurance companies. Prices Estimated.

Hartford Electric Light Company

	Outstanding December 31	1939 Market Prices			Value	Outstanding December 31	1940 Market Prices			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$25 par)	840,000 shs.	69 1/2	61	65.25	\$54,810,000	840,000 shs.	70 1/2	62	66.25	\$55,650,000
(a) 30-Yr. Deb., 1937 Series, 3's, 1967	\$3,360,000			101.00	3,393,600	\$3,290,000			101.00	3,322,900
Total Indicated Market Value					\$58,203,600					\$58,972,900
<u>Earnings Available For Capital</u>										
Net Income for years ended Dec. 31 as reported					\$2,765,060					\$2,837,274
Add: Interest on bonds as computed by S. & P. Corp. (not shown separately in report)					101,325					99,225
Total Earnings Available for Capital					\$2,866,385					\$2,936,499
Investors' Appraisal Of Risks Of Capital					4.92%					4.98%

Notes: (a) Sold privately in 1937 at 100 3/4 to six insurance companies. Prices Estimated.

Hartford Electric Light Company

1941

Outstanding Dec. 31, 1940 Adjusted for 1941 financing	Price Range to August 31			Value
	High	Low	Average	
840,000 shs.	65 1/4	52	58 62	\$49,240,800
\$3,220,000			101 00	3,252,200
4,200,000	112	110	111 00	4,662,000
				<u>\$57,155,000</u>

Indicated Market Value Of Capital

- (a) Common Stock (\$25 par)  
 (b) 30-Year 3 Debentures, Series 1937, 1967  
 (c) 30-Year 3 1/4 Debentures, 1971

Total Indicated Market Value

Earnings Available For Capital

Net Income for year ended Dec. 31, 1940, as reported

Add: Interest on bonds as computed by S. & P. Corp.  
(not shown separately in report)

\$2,837,274

99,225

\$2,936,4995.14%

Total Earnings Available for Capital

Investors' Appraisal Of Risks Of Capital

Notes: (a) Quotations from National Quotation Bureau.

(b) Price used is call price. Sold privately in 1937 at 100 3/4 to six insurance companies.

(c) Registration statement effective July 15, 1941. Offered to stockholders of record July 15, 1941, at par in ratio of 100 principal for each 20 shares of Common held. Balance not subscribed by Sept. 2, 1941 to be sold at public or private sale.

## Pacific Gas &amp; Electric Company

1937

1938

	Outstanding December 31.	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
Indicated Market Value Of Capital										
Parent Company										
Common (\$25 par)	6,261,357 shs.	38	22	30.00	\$187,840,710	6,261,357 shs.	30	22 3/4	26.38	\$165,174,598
5 1/2% Cum. Pref. (\$25 par)	1,149,303 shs.	29 1/2	25 3/8	27.44	31,536,874	1,173,163 shs.	29	25 1/2	27.25	31,968,892
6% " " (\$25 par)	4,085,322 shs.	32 3/4	26 7/8	29.81	121,783,449	4,197,662 shs.	32 3/8	27	29.69	124,628,585
Series "B" 6's, 1941	\$20,000,000	119	113 1/4	116.31	23,226,000	\$20,000,000	116 5/8	113 3/8	115.00	23,000,000
" "G" 4's, 1964	92,985,000	111	103	107.00	99,472,550	92,282,000	112	106 5/8	109.31	100,873,454
" "H" 3 3/4's, 1961	118,249,000	107 7/8	99 5/8	103.75	122,683,338	117,317,000	106 5/8	102 3/4	106.19	124,578,922
" "I" 3 1/2's, 1966	35,000,000	107 1/8	94 3/4	97.94	34,279,000	50,000,000	107	98 1/4	102.63	51,315,000
Subsidiaries										
San Joaquin Lt. & Pr. Corp. "B" 6's, 1952	9,199,500	132	125	128.50	11,821,358	9,160,000	131 1/8	128 1/2	129.81	11,890,596
7% Prior Pref.	25,079 shs.	122	109	115.50	2,895,585					
6% " " "	5,868 shs.	106 5/8	100	103.31	606,223					
7% "A" "	3,625 shs.	106 5/8	106	106.31	385,374					
(a) 6% "B" "	286 shs.			100.00	28,600					
Predecessor Companies										
Standard Elec. of Cal. 5's, 1939	\$795,000	108 1/2	105	106.75	848,663	\$794,400	105 1/2	101	103.25	820,218
Blue Lake Water 6's, 1938	406,000	106 1/2	100	103.25	419,195					
Suburban Lt. & Pr. 6's, 1938	199,500	109	102	105.50	210,472					
Total Indicated Market Value					\$638,037,391					\$634,250,065
Earnings Available For Capital										
Net Income for years ended December 31, as reported					\$24,910,747					\$23,430,288
Add: Interest on Funded Debt					11,479,338					11,598,788
Amortization of Bond Discount					942,128					935,942
Taxes assumed on Interest										15,171
					37,332,213					35,980,189
Less: Dividends on Minority Interest					9,055					824
Total Earnings Available for Capital					\$37,323,158					\$35,979,365
Investors' Appraisal Of Risks Of Capital										
					5.85%					5.67%

Note: (a) Prices estimated.

[fol. 13454]

## Pacific Gas &amp; Electric Company

1939

1940

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
<b>Parent Company</b>										
Common Stock (\$25 par)	6,261,357 shs.	34 3/4	27 1/2	31.13	\$194,916,043	6,261,357 shs.	34 5/8	25 1/4	29.94	\$187,465,029
5 1/2% Cum. Pref. (\$25 par)	1,173,163 shs.	31 5/8	26 3/8	29.00	34,027,727	1,173,163 shs.	31 3/4	26 1/4	29.00	34,021,727
6% " " (\$25 par)	4,197,662 shs.	35 1/2	28 1/2	32.00	134,325,184	4,197,662 shs.	34 7/8	28	31.44	131,974,493
Series "B" 6's, 1941	\$20,000,000	114	108	111.00	22,200,000	\$20,000,000	110 1/2	105	107.75	21,550,000
" "G" 4's, 1964	91,719,000	113 3/4	101	107.38	98,487,882	91,428,000	113 7/8	109 3/4	111.81	102,225,647
" "H" 3 3/4's, 1961	116,582,000	112 3/4	101 1/4	107.00	124,742,740	116,236,000	112 3/4	108	110.38	128,301,297
" "I" 3 1/2's, 1966	50,000,000	110	100	105.00	52,500,000	50,000,000	111 1/8	105 1/8	108.12	54,060,000
<b>Subsidiaries</b>										
San Joaquin Lt. & Pr. Corp. "B" 6's, 1952	9,044,000	132	121 1/8	129.56	11,717,408	9,072,000	137 1/2	127	132.25	11,866,793

# Indicated Market Value Of Capital

## Parent Company

Common (\$25 par)	6,261,357 shs.	38	22	30.00	\$187,840,710	6,261,357 shs.	30	22 3/4	26.38	\$165,174,598
5 1/2% Cum. Pref. (\$25 par)	1,149,303 shs.	29 1/2	25 3/8	27.44	31,536,874	1,173,163 shs.	29	25 1/2	27.25	31,968,692
6% " " (\$25 par)	4,085,322 shs.	32 3/4	26 7/8	29.81	121,783,449	4,197,662 shs.	32 3/8	27	29.69	124,628,585
Series "B" 6's, 1941	\$20,000,000	119	113 1/4	116.31	23,226,000	\$20,000,000	116 5/8	113 3/8	115.00	23,000,000
" "G" 4's, 1964	92,965,000	111	103	107.00	99,472,550	92,282,000	112	106 5/8	109.31	100,873,454
" "H" 3 3/4's, 1961	118,249,000	107 7/8	99 5/8	103.75	122,683,338	117,317,000	109 5/8	102 3/4	106.19	124,578,922
" "I" 3 1/2's, 1966	35,000,000	101 1/8	94 3/4	97.94	34,279,000	50,000,000	107	98 1/4	102.63	51,315,000

## Subsidiaries

San Joaquin Lt. & Pr. Corp. "B" 6's, 1952	9,199,500	132	125	128.50	11,821,358	9,160,000	131 1/8	128 1/2	129.81	11,800,596
7% Prior Pref.	25,070 shs.	122	109	115.50	2,895,585					
6% " " "	5,868 shs.	106 5/8	100	103.31	606,223					
7% "A" " "	3,625 shs.	106 5/8	106	106.31	385,374					
(a) 6% "B" " "	286 shs.			100.00	28,600					

## Predecessor Companies

Standard Elec. of Cal. 5's, 1939	\$795,000	108 1/2	105	106.75	848,663	\$794,400	105 1/2	101	103.25	820,218
Blue Lake Water 6's, 1938	406,000	106 1/2	100	103.25	419,195					
Suburban Lt. & Pr. 6's, 1938	199,500	109	102	105.50	210,472					

## Total Indicated Market Value

\$638,037,391 \$634,250,065

## Earnings Available For Capital

Net Income for years ended December 31, as reported	\$24,910,747	\$23,430,288
Add: Interest on Funded Debt	11,479,338	11,598,788
Amortization of Bond Discount	942,128	935,942
Taxes assumed on Interest		15,171

37,332,213 35,980,189

Less: Dividends on Minority Interest 9,055 824

## Total Earnings Available for Capital

\$37,323,158 \$35,979,365

## Investors' Appraisal Of Risks Of Capital

5.85% 5.67%

Note: (a) Prices estimated.

[fol. 13454].

Appendix C  
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## Pacific Gas & Electric Company

1939

1940

## Indicated Market Value Of Capital

### Parent Company

Common Stock (\$25 par)	6,261,357 shs.	34 3/4	27 1/2	31.13	\$194,916,043	6,261,357 shs.	34 5/8	25 1/4	29.94	\$187,465,029
5 1/2% Cum. Pref. (\$25 par)	1,173,163 shs.	31 5/8	26 3/8	29.00	34,027,727	1,173,163 shs.	31 3/4	26 1/4	29.00	34,021,727
6% " " (\$25 par)	4,197,662 shs.	35 1/2	28 1/2	32.00	134,325,184	4,197,662 shs.	34 7/8	28	31.44	131,974,493
Series "B" 6's, 1941	\$20,000,000	114	108	111.00	22,200,000	\$20,000,000	110 1/2	105	107.75	21,550,000
" "G" 4's, 1964	91,719,000	113 3/4	101	107.38	98,487,862	91,428,000	113 7/8	109 3/4	111.81	102,225,647
" "H" 3 3/4's, 1961	116,582,000	112 3/4	101 1/4	107.00	124,742,740	116,236,000	112 3/4	108	110.38	128,301,297
" "I" 3 1/2's, 1966	50,000,000	110	100	105.00	52,500,000	50,000,000	111 1/8	105 1/8	108.12	54,060,000

### Subsidiaries

San Joaquin Lt. & Pr. Corp. "B" 6's, 1952	9,044,000	138	121 1/8	129.56	11,717,406	8,973,000	137 1/2	127	132.25	11,866,793
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## Total Indicated Market Value

\$672,910,962 \$671,464,986

## Earnings Available For Capital

Net Income for Years ended December 31, as reported	\$25,678,151	\$24,672,908
Add: Interest on Funded Debt	11,596,671	11,512,900
Amortization of Bond Discount	932,247	917,120
Taxes assumed on Interest	8,747	11,047

Deduct: Minority Interest 38,215,816 37,113,975  
1,512 1,499

## Total Earnings Available for Capital

\$38,214,304 \$37,112,476

## Investors' Appraisal Of Risks Of Capital

5.68% 5.53%

Pacific Gas & Electric Company

- 1 9 4 1 -

Indicated Market Value Of CapitalParent Company

	Outstanding Dec. 31, 1940 Adjusted for 1941 financing	Price Range to August 31			Value
		High	Low	Average	
(a) Common Stock (\$25 par)	6,261,357 shs.	28 7/8	22 1/4	25 56	\$160,040,285
(b) 5% Cum. Pfd. (\$25 par)	400,000 shs.			27 00	10,800,000
(c) 5 1/2% Cum. Pfd. (\$25 par)	1,173,163 shs.	31 5/8	28 1/4	29 94	35,124,500
(e) 6% Cum. Pfd. (\$25 par)	4,197,662 shs.	34 1/2	30 3/8	32 44	136,172,155
Series "B" 6's, 1941	\$20,000,000	104 3/4	101 3/8	103 06	20,612,000
Series "G" 4's, 1964	91,428,000	113 1/4	110 3/4	112 00	102,399,360
Series "H" 3 3/4's 1961	116,238,000	111 3/4	110	110 88	128,882,477
Series "I" 3 1/2's, 1966	50,000,000	111 1/8	108 1/2	109 81	54,905,000
(d) Series "J" 3's, 1970	20,000,000	106 1/4	101 1/2	103 88	20,776,000

SubsidiariesSan Joaquin Lt. & Pwr. Corp. "B"  
6's, 1952

8,973,000 138 1/4 133 135.75 12,180,848

Total Indicated Market Value

\$681,892,625

Earnings Available For Capital

Net Income for year ended June 30, as reported

\$23,250,799

(e) Add: Interest on funded debt, amortization of bond discount, etc.

11,709,856

\$34,960,655

Deduct: Minority interest

1,649

Total Earnings Available for Capital

\$34,959,006

Investors' Appraisal Of Risks Of Capital

5.13%

- Notes: (a) Listed on N. Y. Stock Exchange.  
 (b) 400,000 shares offered by the Company in July, 1941 at \$27.  
 (c) Listed on San Francisco Exchange.  
 (d) Sold in March, 1941 to supply funds for general corporate purposes and to finance in part a proposed construction program.  
 (e) Includes charges for miscellaneous interest and miscellaneous income, deductions and a credit for interest charged to construction. The amounts of these items are not reported for the interim period.

## Pennsylvania Water &amp; Power Company

1937

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (no par)	429,848 shs.	95	62	78.50	\$33,743,068
\$5 Cum. Pref. (no par)	21,493 shs.	111 1/8	108	109.56	2,354,773
1st & Ref. Series B 4 1/2's, 1968	\$11,057,000	109	105	107.00	11,830,990
1st Mtge. S.F. 5's, 1940	10,998,000	111 1/8	107 1/4	109.19	12,008,716
Total Indicated Market Value					\$59,937,547
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					\$2,257,110
Add: Interest on Funded Debt					1,053,416
Taxes assumed on interest					37,578
Total Earnings Available for Capital					\$3,348,104
<u>Investors' Appraisal Of Risks Of Capital</u>					
					5.59%

## Pennsylvania Water &amp; Power Company

1939

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (no par)	429,848 shs.	84 3/4	66 1/4	75.50	\$32,453,524
\$5 Cum. Pref. (no par)	21,493 shs.	113 1/2	113 1/2	113.50	2,439,455
1st & Ref. Ser. "B" 4 1/2's, 1968	\$10,962,000	108 5/8	104 1/2	106.56	11,681,107
Ref. & Coll. Tr. 3 1/4's, 1964	10,900,000	105 1/2	105 1/4	105.38	11,486,420
"      "      3 1/4's, 1970					
Total Indicated Market Value					\$58,060,506
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					\$2,173,843
Add: Interest on Funded Debt					1,048,468
Taxes assumed on interest					42,000
Amortization of debt Discount					(82)
Total Earnings Available for Capital					\$3,244,229
<u>Investors' Appraisal Of Risks Of Capital</u>					
5.62%					

Note: Parentheses indicate red figures.

1938

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
429,848 shs.	75 1/2	59	67.25	\$28,907,278
21,493 shs.	112 1/2	112 1/2	112.50	2,417,962
\$11,010,000	109	106 3/8	107.69	11,856,669
10,998,000	108 1/2	104 1/4	106.38	11,699,672
				<u>\$54,881,581</u>
				<u>\$2,494,237</u>
				1,048,759
				41,842
				<u>\$3,584,838</u>
				6.53%

1940

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
429,848 shs.	72 3/4	53	62.88	\$27,028,842
21,493 shs.	112	112	112.00	2,407,216
\$10,900,000	109 1/2	103	106.25	11,581,250
10,962,000	109 1/2	103	106.25	11,647,125
				<u>\$52,664,433</u>
				\$2,115,501
				767,000
				21,000
				134,617
				<u>\$3,038,118</u>
				5.77%

## Pennsylvania Water &amp; Power Company

4496

1941

Indicated Market Value Of Capital		Price Range to August 31			Value	
		High	Low	Average		
Outstanding December 31, 1940						
Adjusted for 1941 bond repayments						
(a) Common Stock (no par)	429,848 shs.	57 7/8	49 3/4	53 81	\$23,130,121	
(b) \$5 Cum. Pref. (no par)	21,493 shs.	114	108	111 00	2,385,723	
(c) Ref. & Coll. Tr. 3 1/4's, 1944	\$10,797,000	110 1/2	105	107 75	11,633,768	
(d) Ref. & Coll. Tr. 3 1/4's 1970	10,875,000	110 1/2	105	107 75	11,717,813	
Total Indicated Market Value					\$48,867,425	
Earnings Available For Capital						
(e) Net income for year ended June 30 as reported						
Add: Interest on funded debt						
Taxes assigned on interest						
Amount of debt discount						
Total Earnings Available for Capital					\$2,116,673	
Investors' Appraisal Of Risks Of Capital					709,870	
					10,440	
					163,172	
					\$3,000,155	
					6 14/6	

Notes: (a) Listed on N. Y. Curb Exchange  
 (b) Quotations from National Quotation Bureau  
 (c) Company called for payment September 1, 1941, at 105 and interest, \$103,000 Ref. & Coll. Tr. 3 1/4's 1964  
 (d) Company called par payment May 1, 1941, at 106 and interest, \$87,000 Ref. & Coll. Tr. 3 1/4's 1970  
 (e) Obtained by combining data for the six months ended June 30, 1941 as published, with data for the six months ended December 31, 1940.

[fol. 13459]

Appendix C  
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## Southern California Edison Company, Ltd.

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common Stock (\$25 par)	3,182,805 shs.	32	17 3/4	24.88	\$79,188,188	3,182,805 shs.	25	19 1/4	22.13	70,435,475
Original Part. Cum. Pref. (\$25 par)	160,000 shs.	41	33 3/8	37.19	5,950,400	160,000 shs.	43	34 1/8	38.56	6,169,600
6% Pref. Series "B" (\$25 par)	1,907,256 shs.	29 3/8	25 5/8	27.50	52,449,540	1,907,256 shs.	29	25 1/8	27.06	51,610,347
5 1/2% Pref. Series "C" (\$25 par)	1,399,601 shs.	28	23 1/4	25.63	35,871,774	1,399,601 shs.	27 5/8	23 1/2	25.56	35,773,802
(a) Preferred Series "A"	369 shs.			25.00	9,225	196 shs.			25.00	4,900
Debenture 3 3/4's 1945	\$14,500,000	107 1/2	103	105.25	15,261,250	\$8,700,000	107	101 1/2	104.25	9,069,750
1st. Ref. 3 3/4's 1960	73,000,000	108	99 3/8	103.68	75,686,400	73,000,000	109 1/4	102 1/2	105.88	77,292,400
1st. Ref. Series "B" 3 3/4's 1960	35,000,000	108	99 1/4	103.63	36,270,500	35,000,000	109 1/4	102 1/8	105.69	36,991,500
1st. Ref. 4's 1960	30,000,000	110 3/4	104	107.38	32,214,000	30,000,000	111 7/8	106 5/8	109.25	32,775,000
Debenture 2 1/2's 1938	2,000,000	101 3/4	100	100.88	2,017,600					
Debenture 3 1/2's 1940	3,000,000	103	100	101.50	3,045,000					
Pacific Light & Power 5's 1942	4,527,000	117	111 1/2	114.25	5,172,098	4,448,000	115	113	114.00	5,070,720
Total Indicated Market Value					343,135,975					325,193,494
<b>Earnings Available For Capital</b>										
Net Income for years ending Dec. 31, as reported					12,058,469					11,815,470
Add: Interest on Funded Debt					6,197,974					6,048,000
Amortization Debt Discount					889,982					1,156,327
Total Earnings Available for Capital					19,146,425					19,019,797
<b>Investors' Appraisal Of Risks Of Capital</b>										
					5.58%					5.85%

Notes: (a) Prices Estimated.

[fol. 13460]

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## Southern California Edison Company, Ltd.

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common Stock (\$25 par)	3,182,805 shs.	29 1/4	23 1/8	26.19	\$83,357,663	3,182,805 shs.	30 1/2	23 1/4	26.88	\$85,553,798
Original Part. Cum. Pref. (\$25 par)	160,000 shs.	41	36 1/4	41.13	6,580,800	160,000 shs.	48	35	41.50	6,640,000
6% Pref. Series "B" (\$25 par)	1,907,256 shs.	30	27	28.50	54,356,796	1,907,256 shs.	31 3/4	27	29.38	56,035,181
5 1/2% Pref. Series "C" (\$25 par)	1,399,601 shs.	29 5/8	25	27.31	38,223,103	1,399,601 shs.	30 1/8	24 1/4	27.19	38,055,151
1st & Ref. 3 3/4's, 1960	\$73,000,000	111 3/4	102	106.88	78,022,400					
1st & Ref. Series "B" 3 3/4's, 1960	35,000,000	111 7/8	102	106.94	37,429,000					
(a) 1st & Ref. 3 1/4's, 1964	30,000,000			105.00	31,500,000	\$30,000,000			105.00	31,500,000
1st & Ref. 3's, 1965						108,000,000	105 1/2	103 1/2	104.50	112,860,000
Pacific Light & Power 5's, 1942	4,134,000	113 1/2	109 1/4	111.38	4,604,449	4,124,000	112	106 5/8	109.31	4,518,875
Total Indicated Market Value					\$334,074,211					\$335,163,005
<b>Earnings Available For Capital</b>										
Net Income for years ending Dec. 31, as reported					\$12,670,238					\$12,368,722
Add: Interest on Funded Debt					5,636,602					5,917,538
Amortization of Debt Discount					1,173,589					840,619
Total Earnings Available for Capital					\$19,480,429					\$19,126,879
<b>Investors' Appraisal Of Risks Of Capital</b>										
					5.83%					5.71%

Notes: (a) Sold privately on Sept. 1, 1939, to five insurance companies at 104.37. Prices Estimated.

## Southern California Edison Company, Ltd.

1941

Indicated Market Value Of Capital	Outstanding Dec. 31, 1940	Price Range to August 31		Value
		High	Low	
(a) Common Stock (\$25 par)	3,182,865 shs.	28 5/8	22 1/8	\$80,365,826
(b) Original Part. Cum. Pfd. (\$25 par)	100,000 shs.	46 1/2	38	6,740,000
(b) 6% Pfd. Series "B" (\$25 par)	1,907,256 shs.	31 1/4	29	57,365,623
(b) 5 1/2% Pfd. Series "C" (\$25 par)	1,399,601 shs.	29 7/8	28	40,504,453
1st & Ref. Mtdge. 3's, 1965	\$108,000,000	105 1/8	101	111,304,800
(c) 1st & Ref. Mtdge. 3 1/4's, 1964	30,000,000		105 00	31,500,000
Pacific Lt. & Pwr. 1st Mtdge. 5's, 1942	4,134,000	106 3/8	102 1/4	4,371,242

## Total Indicated Market Value

\$332,214,944

## Earnings Available For Capital

Net Income for year ended June 30, as reported

\$12,349,422

Add: Interest on funded debt and Amortization of debt discount

(not segregated in report)

6,374,426

## Total Earnings Available for Capital

\$18,723,848

## Investors' Appraisal Of Risks Of Capital

5.64%

Notes: (a) Listed on New York Stock Exchange.

(b) Listed on New York Curb Exchange.

(c) Price estimated. Sold privately on Sept. 1, 1939, to five insurance companies at 104.37.

[fol. 13462]

Appendix C  
Page 64Tampa Electric Company

1937					
	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (no par)	596,932 shs.	41	25 1/4	33 13	\$19,776,357
7% Cum. Pref. "A" (\$100 par)	10,000 shs.	115	112	113 50	1,135,000
Total Indicated Market Value					\$20,911,357
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					\$1,458,155
<u>Investors' Appraisal Of Risks Of Capital</u>					
					6.97%

1938				
Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
<u>A</u>				
597,867 shs.	36 1/2	26 3/8	31.44	\$18,796,938
10,000 shs.	115	107	111.00	1,110,000
				<u>\$19,906,938</u>
				<u>\$1,501,642</u>
				7.54%

[fol. 13463]

Appendix C  
Page 65Tampa Electric Company

1939					
	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (no par)	597,867 shs.	36 1/2	28 1/2	32 50 <sup>a</sup>	\$19,430,677
7% Cum. Pref. "A" (\$100 par)	10,000 shs.	115 1/2	113	114 25	1,142,500
Total Indicated Market Value					<u>\$20,573,177</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					<u>\$1,508,391</u>
Investors' Appraisal Of Risks Of Capital					7.33%

1940				
Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
597,867 shs.	36 3/4	23	29 88	\$17,864,266
10,000 shs.	114	109	111 50	1,115,000
				<u>\$18,979,266</u>
				<u><u>\$1,474,266</u></u>
				<u>7.77%</u>

\* Includes approximately \$135,000 net income arising from rates in dispute.

[fol. 134r]

## Tampa Electric Company

	Outstanding Dec. 31, 1940	Price Range to August 31 1941			Value
		High	Low	Average	
Indicated Market Value Of Capital					
(a) Common Stock (No par)	507,957 sha.	25	19 3/4	22 38	\$13,350,263
(b) 7% Cum. Pfd. "A" (\$100 par)	10,000 sha.	114 1/4	112	113.12	1,131,200
Total Indicated Market Value					\$14,511,463
Earnings Available For Capital					
(c) Net Income for year ended July-31, as reported					\$1,505,242
Investors' Appraisal Of Risks Of Capital*					10 37%

Notes: (a) Listed on New York Curb Exchange.  
 (b) Quotations from National Quotation Bureau.  
 (c) Includes approximately \$324,400 net income arising from rates in dispute.

[fol. 13465]

Appendix C  
Page 67Bridgeport Gas Light Company

	1937				1938			
	Outstanding December 31	Price Range for Year			Outstanding December 31	Price Range for Year		
		High	Low	Average		High	Low	Average
<u>Indicated Market Value Of Capital</u>								
Common Stock (No par)	181,500 sha.	36 1/4	31	33.63	181,500 sha.	33	25	29.00
1st Mtge. 4's, 1952	\$1,000,000	114	106	110.00	\$1,000,000	115	108	111.50
Total Indicated Market Value				\$7,203,845				\$6,378,500
<u>Earnings Available For Capital</u>								
Net Income for years ending Dec. 31 as reported				\$391,757				\$381,181
Add: Interest on Bonds				40,000				40,000
Total Earnings Available for Capital				\$431,757				\$421,181
<u>Investors' Appraisal Of Risks Of Capital</u>				5.99%				6.60%

[fol. 13466]

Appendix C  
Page 68Bridgeport Gas Light Company

	1939				1940			
	Outstanding December 31	Price Range for Year			Outstanding December 31	Price Range for Year		
		High	Low	Average		High	Low	Average
<u>Indicated Market Value Of Capital</u>								
Common Stock (No par)	181,500 sha.	36	33	34.50	181,500 sha.	36	36	36.00
1st Mtge. 4's, 1952	\$1,000,000	116	106	111.00	\$1,000,000	119	109	114.00
Total Indicated Market Value				\$7,371,750				\$7,674,000
<u>Earnings Available For Capital</u>								
Net Income for years ending Dec. 31 as reported				\$397,728				\$401,618
Add: Interest on Bonds				40,000				40,000
Total Earnings Available for Capital				\$437,728				\$441,618
<u>Investors' Appraisal Of Risks Of Capital</u>				5.94%				5.75%

Bridgport Gas Light Company

1947

Outstanding December 31	Price Range to August 31			Value
	High	Low	Average	
181,500 sha.	35	23	29.00	\$5,263,700
\$1,000,000 1st Mtge. 4's, 1952	121	115	118.00	1,180,000
				\$6,443,500

Indicated Market Value Of Capital

(a) Common Stock (No par)  
1st Mtge. 4's, 1952

Total Indicated Market ValueEarnings Available For Capital

Net income for year ended Dec. 31, 1940, as reported  
Add: Interest on bonds

\$401,618  
40,000

Total Earnings Available for Capital

\$441,618

Investors' Appraisal Of Risks Of Capital

6.85%

Notes: (a) Quotations from National Quotation Bureau

Brooklyn Union Gas Company

1937

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (No par)	745,364 shs.	52 3/4	15 1/2	34 13	\$25,439,273
1st Consol. Mtge. 5's 1945	\$14,736,000	122 1/8	106	114 07	16,809,355
1st Lien & Ref. Mtge. "A" 6's 1947	6,000,000	132 1/4	100 3/4	116 56	6,990,000
1st Lien & Ref. Mtge. "B" 5's 1957	10,000,000	109	87	98 00	9,800,000
20 Yr. Debs. 5's 1950	18,000,000	106	65	85 50	15,390,000
(a) Citizens Gas Light Co. 1st Cons. Mtge. 5's 1940	264,000	111	104	107 50	283,800
Total Indicated Market Value					<u>\$74,712,428</u>
<u>Earnings Available For Capital</u>					
Net income for years ending Dec. 31 as reported					\$1,913,604
Add: Interest on Long Term Debt.					2,510,000
Amortization of Bond Discount					28,427
					<u>4,452,031</u>
Deduct Amortization of Bond Premium					4,800
Total Earnings Available for Capital					<u>\$4,447,231</u>
Investors' Appraisal Of Risks Of Capital					5.95%

Notes: (a) Quotations from Moody's Utility Manual

1938

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
745,364 shs.	23 3/8	10 1/8	16 75	\$12,484,847
\$14,736,000	108 1/2	100	104.25	15,362,280
6,000,000	107	95 1/2	101.25	6,075,000
10,000,000	99	78 1/2	88.75	8,875,000
18,000,000	80 3/4	59 1/4	70.00	12,600,000
264,000	105	102 1/2	103.75	273,900
				\$55,671,027
				\$1,679,853
				2,510,000
				28,427
				4,218,280
				4,800
				\$4,213,480
				7.57%

Brooklyn Union Gas Company

1939

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (no par)	745,364 shs.	30 1/8	13 5/8	21 88	\$16,308,564
1st Cons. Mtge. 5's 1945	\$14,736,000	113 3/4	106	109 88	16,191,917
1st Lien & Ref. Mtge. "A" 6's 1947	6,000,000	115 3/8	103 1/4	109 31	6,558,600
1st Lien & Ref. Mtge. "B" 5's 1957	10,000,000	105 7/8	93	99 44	9,944,000
20 Yr. Debs. 5's 1950	18,000,000	99 1/2	72 1/2	86 00	15,480,000
Citizens Gas Light Co. 1st Cons. Mtge. 5's 1940	264,000	103 1/2	100 1/2	102 00	269,280
Total Indicated Market Value					<u>\$64,762,361</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$1,802,591
Add: Interest on Funded Debt					2,510,000
Amortization of Debt Discount					28,427
					<u>4,341,018</u>
Deduct Amortization of Debt Premium					4,800
Total Earnings Available for Capital					<u>\$4,336,218</u>
Investors' Appraisal Of Risks Of Capital					6.70%

1940

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
745,364 shs.	25 1/2	12 3/4	19 13	\$14,258,815
\$14,736,000	113 7/8	108 5/8	111 25	16,393,800
6,000,000	115 4/2	111	113 25	6,795,000
10,000,000	107 7/8	102	104 94	10,494,000
18,000,000	98 1/2	84	91 25	16,425,000
				\$64,366,613
				\$1,802,426
				2,497,900
				28,427
				4,328,753
				4,800
				\$4,323,953
				6.72%

## Brooklyn Union Gas Company

1941

	Outstanding December 31, 1940	Price Range to August 31			Value
		High	Low	Average	
(a) Common Stock (no par)	745,364 shs.	14 3/8	10	12 06	\$ 8,989,000
1st Conv. Mfg. 5's 1945	\$14,736,000	111 1/2	108 5/8	110 06	16,218,442
1st Lien & Ref. Mfg. "A" 6's 1947	6,000,000	113 5/8	108 3/4	111 19	6,671,400
1st Lien & Ref. Mfg. "B" 5's 1957	10,000,000	107 1/2	103 1/2	105 50	10,550,000
20 Year Debs. 5's 1950	18,000,000	95 1/8	90	92 56	16,640,806
Total Indicated Market Value					<u>\$59,089,732</u>

## Earnings Available For Capital

Net Income for year ended June 30, 1941 as reported.

Add: Interest on funded debt.

(b) \* Amortization of debt discount

\$1,709,805  
2,496,800  
28,427

(b) Deduct Amortization of debt premium

\$1,235,012  
4,800

Total Earnings Available for Capital

\$4,230,242

## Investors' Appraisal of Risks Of Capital

7.16%

Notes: (a) Listed on N. Y. Stock Exchange.

(b) Amounts estimated by B. &amp; P. Corp. Amounts not segregated in interim report.

Elizabethtown Consolidated Gas Company

	1937					1938				
	Outstanding	Price Range for Year				Outstanding	Price Range for Year			
	December 31	High	Low	Average	Value	December 31	High	Low	Average	Value
<u>Indicated Market Value Of Capital</u>										
(a) Capital Stock (\$100 par)	38,716 shs.	215	200	207.50	<u>\$8,033,570</u>	38,716 shs.	200	185	192.50	<u>\$7,452,830</u>
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					<u>\$590,455</u>					<u>\$569,472</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>7.35%</u>					<u>7.64%</u>

Note: (a) 1937 quotations from Poor's Utility Manual.

Elizabethtown Consolidated Gas Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (no par)	38,716 shs.	215	190	202.50	<u>\$7,839,990</u>	38,716 shs.	216	209 1/2	212.68	<u>\$8,232,483</u>
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					<u>\$599,152</u>					<u>\$548,277</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>7.64%</u>					<u>6.66%</u>

Elizabethtown Consolidated Gas Company

1941

	Outstanding Dec. 31, 1940	Price Range to August 31			Value
		High	Low	Average	
Indicated Market Value of Capital (a) Capital Stock (no par)	38,716 sha.	205	180	192.50	\$7,452,830
Earnings Available For Capital Net income for year ended December 31, 1940, as reported					\$ 548,277
Investors' Appraisal Of Risks Of Capital					7.36%

Note: (a) Quotations from National Quotation Bureau.

[fol. 13474]

Appendix C  
Page 76Hartford Gas Company

1937

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (\$25 par)	150,000 shs.	41	20	30.50	\$4,575,000
8% Pref. (\$25 par)	30,000 shs.	54	41	47.50	1,425,000
Total Indicated Market Value					<u>\$6,000,000</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					<u>\$392,260</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>6.54%</u>

1938

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
150,000 shs.	32	24	28.00	\$4,200,000
30,000 shs.	45	41	43.00	1,290,000
				<u>\$5,490,000</u>
				<u>\$366,943</u>
				<u>6.68%</u>

[fol. 13475]

Appendix C  
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1939

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (\$25 par)	150,000 shs.	36	31	33.50	\$5,025,000
8% Pref. (\$25 par)	30,000 sha.	47	45	46.00	1,380,000
Total Indicated Market Value					<u>\$6,405,000</u>
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31, as reported					<u>\$387,306</u>
<u>Investors' Appraisal Of Risks Of Capital</u>					<u>6.05%</u>

1940

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
150,000 shs.	35	33	34.00	\$5,100,000
30,000 shs.	49	47	48.00	1,440,000
				<u>\$6,540,000</u>
				<u>\$425,918</u>
				<u>6.51%</u>

Hartford Gas Company

	Outstanding Dec. 31, 1940	1941 Price Range to Aug. 31			Value
		High	Low	Average	
Indicated Market Value Of Capital					
(a) Common Stock (\$25 par)	150,000 shs.	35	27	31.00	\$4,650,000
(a) 8% Cum. Pref. (\$25 par)	30,000 shs.	50	49	49.50	1,485,000
Total Indicated Market Value					\$6,135,000
Earnings Available For Capital					
Net Income for year ended December 31, 1940, as reported					\$425,918
Investors' Appraisal Of Risks Of Capital					6.94%

Note: (a) Quotations from National Quotation Bureau.

## Laclede Gas Light Company

	1937					1938				
	Outstanding December 31	High	Low	Average	Value	Outstanding December 31	High	Low	Average	Value
<b>Indicated Market Value Of Capital</b>										
Common Stock (\$100 par)	107,000 shs.	27 7/8	6	16.94	\$1,812,580	107,000 shs.	18	8	13.00	\$1,391,000
5% Preferred Cum. (\$100 par)	25,000 shs.	41 1/2	8	24.75	618,750	25,000 shs.	30	15	22.50	562,500
Ref. & Ext. 5's 1939	\$9,985,000	101	84 1/2	92.63	9,249,106	\$9,985,000	90 1/2	69 5/8	80.06	7,993,991
(a) Not Extended	15,000			92.63	13,895	15,000			80.06	12,009
1st Mtge. Coll. Ref. "C" 5 1/2's 1953	17,500,000	70 5/8	53 7/8	62.25	10,893,750	17,500,000	61 1/4	42 1/8	51.69	9,045,750
1st Mtge. Coll. Ref. "D" 5 1/2's 1960	5,500,000	70 1/2	54	62.25	3,423,750	5,500,000	60	40 5/8	50.31	2,767,050
Coll. Trust 6's 1942 "A"	2,344,000	68 1/4	43	55.63	1,303,967	2,345,000	53 5/8	38	45.81	1,074,245
Coll. Trust 6's 1942 "B"	653,000	70	49	59.50	388,535	654,000	49 7/8	42	45.94	300,448
(a) 10 Yr. Conv. Notes 5%	3,000			100.00	3,000	1,000			100.00	1,000
Total Indicated Market Value					\$27,707,333					\$23,147,993
<b>Earnings Available For Capital</b>										
Net Income for years ended December 31 as reported.					\$123,593					(\$226,446)
Add: Interest on Funded Debt.					1,944,987					1,944,989
Amortization of Debt Discount					187,097					187,345
Taxes on Bonds & Interest					17,139					16,189
Total Earnings Available for Capital					\$2,272,816					\$1,922,077
Investors' Appraisal Of Risks Of Capital					8.20%					8.30%

Notes: (a) Prices Estimated  
Parentheses Indicate Red Figures

## Laclede Gas Light Company

	Outstanding December 31	1939 Price Range for Year			Value	Outstanding December 31	1940 Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$100 par)	107,000 shs.	13 1/2	7	10.25	\$1,096,750	107,000 shs.	9 1/2	4	6.75	\$ 722,250
5% Cum. Pref. (\$100 par)	25,000 shs.	23 1/2	12 1/2	18.00	450,000	25,000 shs.	21 1/2	8 1/4	14.88	372,000
Ref. & Ext. 5's, 1942	\$8,471,000	90	77 7/8	83.94	7,110,557	\$8,820,000	95 1/2	79 7/8	87.69	7,734,258
" " 5's, 1939	1,520,000	91 1/2	78	84.75	1,288,200	1,173,000	97 1/4	80	88.63	1,039,630
(a) Not extended	9,000			84.75	7,628	7,000			88.63	6,204
1st & Coll. Ref. "C" 5 1/2's, 1953	17,500,000	58 3/4	43	50.88	8,904,000	17,500,000	62 1/2	38	50.25	8,793,750
" " " "D" 5 1/2's, 1960	5,500,000	58 1/2	42	50.25	2,763,750	5,500,000	61 3/4	38	49.88	2,743,400
Coll. Trust Notes 6's, Ser. A, 1942	2,345,000	51	40	45.50	1,068,975	2,345,000	60 1/2	33	46.75	1,096,287
" " " 6's Ser. B, 1942	655,000	50 1/4	41	45.63	298,877	655,000	51 3/4	39	50.38	329,989
Total Indicated Market Value					\$22,986,737					\$22,837,768
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$ (134,779)					\$ 224,874
Add: Interest on Funded Debt					1,945,002					1,945,000
Amortization of Debt Discount					150,528					144,881
Taxes on Bonds and Interest					15,771					15,984
Total Earnings Available for Capital					\$1,976,522					\$2,330,739
Investors' Appraisal Of Risks Of Capital					8.60%					10.21%

Notes: (a) Prices estimated.  
Parentheses indicate red figures.

Outstanding Dec. 31, 1940	Price Range to August 31			Value
	High	Low	Average	
107,000 shs.	16 1/4	5 1/4	11.75	\$1,257,250
25,000 shs.	45 1/2	17 1/4	31.38	784,500
\$5,820,000	98 1/4	92 1/4	95.25	8,401,050
1,173,000	99 1/2	94	96.75	1,134,878
7,000			96.75	6,773
17,500,000	85	56 1/4	70.63	12,360,250
5,500,000	85	57 1/2	71.25	3,918,750
2,345,000	76 3/8	49	62.69	1,470,081
655,000	89	50	69.50	455,225
				\$29,788,757

## Total Indicated Market Value

## Earnings Available For Capital

Net Income for year ended June 30 as reported

Add: Interest on funded debt.

Amortization of debt discount

Taxes on bonds and interest

## Total Earnings Available for Capital

## Investors' Appraisal Of Risks Of Capital

Notes: (a) listed on N. Y. Stock Exchange

(b) Price estimated.

## Peoples Gas Light &amp; Coke Company

1937

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<b>Indicated Market Value Of Capital</b>					
Capital Stock (par \$100)	664,425 shs.	65 1/2	22	43.75	\$29,068,594
1st Cons. Mtge. 6's, 1943	\$4,798,000	121 5/8	116 1/4	118.94	5,706,741
Ref. Mtge. 5's, 1947	20,386,000	117 1/2	108 1/2	113.00	23,036,180
1st & Ref. Mtge. "B" 4's, 1981	15,000,000	100	76	88.00	13,200,000
" " " "D" 4's, 1961	22,000,000	99 5/8	87	93.31	20,508,200
Mutual Fuel Gas Co. 1st Mtge. 5's, 1947	4,864,000	119	112 3/4	115.88	5,636,403
Ogden Gas Co. 1st Mtge. 5's, 1945	5,635,000	111 3/4	101 1/4	106.50	6,001,275
(a) Kokoma Gas & Fuel Co. Gen'l & Ref. 5's, 1957	39,000	95	85	90.00	35,100
<b>Promissory Notes Payable to Banks</b>					
Secured — 2 1/4% 1940	1,500,000			100.00	1,500,000
3 % 1941	1,500,000			100.00	1,500,000
2 % 1942	1,500,000			100.00	1,500,000
2 % 1939	1,000,000			100.00	1,000,000

Total Indicated Market Value

\$108,712,493

## Earnings Available For Capital (b)

Net Income for years ended December 31, as reported

\$2,424,725

Add: Interest on Long Term Debt

3,474,934

Amortization of Debt Discount

237,266

Total Earnings Available for Capital

\$6,136,925

## Investors' Appraisal Of Risks Of Capital

5.65%

Notes: (a) Quotations from National Quotation Bureau.

(b) 1938 figures restated in 1940 report to eliminate the effect of higher rates charged between February 5, 1938 and March 31, 1940 and also to adjust for settlement of tax litigation regarding the company's personal property taxes.

## Peoples Gas Light &amp; Coke Company

1939

	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
Indicated Market Value Of Capital					
Capital Stock (\$100 par)	656,119 shs.	45	30 1/2	37.75	\$24,768,492
1st Consol. Mtge. 6's, 1943	\$4,798,000	117 5/8	110	113.81	5,460,604
Ref. Mtge. 5's, 1947	20,386,000	117 1/2	108	112.75	22,985,215
1st & Ref. Mtge. "B" 4's, 1981	15,000,000	100	90	95.00	14,250,000
" " " " "D" 4's, 1961	22,000,000	100 7/8	92 3/4	96.81	21,298,200
Mutual Fuel Gas Co. 1st Mtge. 5's, 1947	4,864,000	117 1/4	111	114.13	5,551,283
Ogden Gas Co. 1st Mtge. 5's, 1945	5,355,000	111 1/2	104	107.75	6,770,013
Total Indicated Market Value					\$100,083,807

## Earnings Available For Capital (a)

Net Income for years ended December 31, as reported

\$2,707,672

Add: Interest on Long Term Debt

3,349,985

Amortization of Debt Discount and Expense

237,893

Total Earnings Available for Capital

\$6,295,550

## Investors' Appraisal Of Risks Of Capital

6.29%

1940

Outstanding December 31	Price Range for Year			Value
	High	Low	Average	
656,000 shs.	43	23	33.00	\$21,648,000
2,090,000	116	110 1/2	113.25	2,366,925
20,386,000	118 1/4	111	114.62	23,366,433
15,000,000	104 1/2	91	97.75	14,662,500
22,000,000	105	95	100.00	22,000,000
4,864,000	120	112 1/4	116.12	5,648,077
5,214,000	113 1/2	107 1/2	110.50	5,761,470
				\$95,453,405

## Earnings Available For Capital (a)

Net Income for years ended December 31, as reported

\$3,035,606

Add: Interest on Long Term Debt

3,210,658

Amortization of Debt Discount and Expense

120,013

Total Earnings Available for Capital

\$6,366,277

## Investors' Appraisal Of Risks Of Capital

6.67%

Note (a) 1939 figures restated on 1940 report to eliminate the effect of higher rates charged between February 5, 1938 and March 31, 1940 and also to adjust for settlement of tax litigation regarding company's personal property taxes.

Peoples Gas Lights & Coke Co.

1941

Indicated Market Value of Capital	Outstanding Dec. 31, 1940 adjusted for 1941 financing	Price Range to August 31		Value
		High	Low	
(a) Capital Stock (\$100 par)	656,000 shs.	51 5/8	36 3/4	\$28,988,640
1st Consol. Mgt. 5's 1943	\$2,090,000	111	107	2,275,100
Ref. Mgt. 5's 1947	20,386,000	118 1/4	114 3/4	23,749,600
(b) Ref. Mgt. 5's "F" 3 1/4's 1956	22,000,000			22,000,000
(b) Ref. Mgt. 5's "F" 3's 1956	15,000,000			15,000,000
Mutual Fuel Gas Co. 1st Mgt. 5's 1947	4,864,000	117	115	5,642,240
Ogden Gas Co. 1st Mgt. 5's 1945	5,214,000	113 1/2	109 3/8	5,810,482
Total Indicated Market Value				\$103,469,152
Earnings Available For Capital				
Net Income for year ended June 30 as reported				\$3,705,514
Add: Interest on long-term debt				3,143,183
Amortization of debt discount and expense				120,011
Total Earnings Available for Capital				\$6,968,708
Investors' Appraisal Of Risks Of Capital				6.74

Notes: (a) Listed on N. Y. Stock Exchange.

(b) Prices estimated. Sold privately in August, 1941 to five insurance companies at par. Proceeds were used to retire 1st &amp; Ref. Mgt. "B" 4's of 1931 and "D" 4's of 1961.

[fol. 13483]

Appendix C  
Page 85Providence Gas Company

	1937			
	Outstanding December 31	Price Range for Year		Value
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (no par)	1,074,028 shs.	47 1/2	7 1/2	9 50
1st Mtge. "B" 4's 1963	\$3,250,000	108 1/2	101	104 75
				\$10,203,266
				3,404,375
Total Indicated Market Value				\$13,607,641
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31 as reported				\$804,358
Add: Deductions from Gross Income				140,753
Total Earnings Available for Capital				\$945,111
<u>Investors' Appraisal Of Risks Of Capital</u>				6.95

	1938			
	Outstanding December 31	Price Range for Year		Value
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (no par)	1,074,028 shs.	7 1/2	6 1/4	6 88
1st Mtge. "B" 4's 1963	\$3,250,000	107 1/2	105 1/2	106 50
				\$7,389,313
				3,461,250
Total Indicated Market Value				\$10,850,563
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31 as reported				\$651,968
Add: Deductions from Gross Income				138,128
Total Earnings Available for Capital				\$790,096
<u>Investors' Appraisal Of Risks Of Capital</u>				7.28

[fol. 13484]

Appendix C  
Page 86Providence Gas Company

	1939			
	Outstanding December 31	Price Range for Year		Value
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (no par)	1,074,028 shs.	8 3/8	7	7 69
1st Mtge. "B" 4's 1963	\$3,250,000	107	103	105 00
				\$8,250,275
				3,412,500
Total Indicated Market Value				\$11,671,775
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31 as reported				\$742,079
Add: Deductions from Gross Income				137,940
Total Earnings Available for Capital				\$880,019
<u>Investors' Appraisal Of Risks Of Capital</u>				7.54

	1940			
	Outstanding December 31	Price Range for Year		Value
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (no par)	1,074,028 shs.	9 7/8	8 1/8	9 00
1st Mtge. "B" 4's 1963	\$3,250,000	108	103	105 50
				\$9,866,252
				3,428,750
Total Indicated Market Value				\$13,095,002
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31 as reported				\$755,475
Add: Deductions from Gross Income				137,952
Total Earnings Available for Capital				\$893,427
<u>Investors' Appraisal Of Risks Of Capital</u>				6.82

Providence Gas Company

	Outstanding Dec. 31, 1940	Price Range to August 31 1941			Value
		High	Low	Average	
	1,074,028 shs.	8 3/4	7 5/8	8 19	\$8,796,289
	3,250,000	107	104	105 50	3,928,750
					\$12,225,039

Indicated Market Value Of Capital

(a) Capital Stock (no par)  
1st Mtge. "B" 4's 1963

Total Indicated Market Value

Earnings Available For Capital

Net Income for year ended December 31, 1940, as reported.

Add: Deductions from Gross Income

— Total Earnings Available for Capital

Investors' Appraisal Of Risks Of Capital

Notes: (a) Listed on N. Y. Curb Exchange.

\$755,475  
137,952  
\$893,427  
7.31%

## Seattle Gas Company

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (no par)	23,825 shs.	3 1/4	1/8	1.69	\$ 40,264	23,825 shs.	1 1/4	1/4	0.75	\$ 17,869
\$5 1st Pref. (no par)	47,250 shs.	26	5	15.50	732,375	47,250 shs.	16 1/2	7	11.75	555,188
\$5 2nd Pref. (\$25 par)	27,556 shs.	9	1	5.00	137,780	27,556 shs.	4 5/8	3/4	2.69	74,126
1st Ref. 5's, 1954	\$4,725,000	96	53	74.50	3,520,125	\$4,725,000	67 1/2	45	56.25	2,657,813
(a) Seattle Lighting Co. 5's, 1944	291,000	108 1/4	101 1/2	104.88	305,201	258,900	107	90 1/2	98.75	254,775
Total Indicated Market Value					\$4,735,745					\$3,559,771
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$ (58,733)					\$ (63,657)
Add: Bond Interest					252,751					249,825
Amortization of Reorganization Expense applicable to Funded Debt					2,388					2,388
Total Earnings Available for Capital					\$196,406					\$188,556
<u>Investors' Appraisal Of Risks Of Capital</u>					4.15%					5.30%

Notes: (a) Quotations from Moody's Utility Manual.  
Parentheses indicate red figures.

[fol. 13487]

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## Seattle Gas Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (no par)	23,825 shs.	1/2	1/8	0.31	\$ 7,386	23,825 shs.	5/8	1/8	0.38	\$ 9,054
\$5 1st Pref. (no par)	47,250 shs.	15	7 1/4	11.12	525,420	47,250 shs.	21	12 3/4	16.88	797,580
\$5 2nd Pref. (\$25 par)	27,556 shs.	3	1	2.00	55,112	27,556 shs.	4	1	2.50	68,890
1st & Ref. 5's, 1954	\$4,725,000	70 1/2	43 1/2	57.00	2,693,250	\$4,725,000	82	67	74.50	3,520,125
(a) Seattle Lighting Co. 5's, 1944	246,000	105	97	101.00	248,460	191,000	107	99 1/2	103.25	197,208
Total Indicated Market Value					\$3,529,628					\$4,592,857
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31, as reported					\$113,342					\$100,525
Add: Interest on Funded Debt					249,076					247,378
Amortization of Reorganization Expenses applicable to Funded Debt					2,388					2,388
Total Earnings Available for Capital					\$364,806					\$350,291
<u>Investors' Appraisal Of Risks Of Capital</u>					10.34%					7.63%

Note: (a) Quotations from Moody's Utility Manual.

Seattle Gas Company

1941

Outstanding  
Dec. 31, 1940  
Adjusted for  
1941 Sinking  
Fund Payment

	Price Range to August 31			Value
	High	Low	Average	
23,825 shs.	25	.05	0.15	\$ 3,574
47,250 shs.	14	8 1/2	11.25	531,563
27,556 shs.	1 1/2	1/4	0.88	24,249
\$4,725,000	82	72	77.00	3,638,250
156,000	109	104	106.50	166,140
				<u>\$4,363,776</u>

Indicated Market Value Of Capital

- (a) Common Stock (no par)  
 (a) \$5 1st Pref. (no par)  
 (a) \$5 2nd Pref. (\$25 par)  
 1st & Ref. 5's, 1954  
 (b) Seattle Lighting Co. 5's, 1944

Total Indicated Market ValueEarnings Available For Capital

Net Income for year ended June 30, as reported  
 Add: Interest on Funded Debt  
 Amortization of Reorganization Expense applicable  
 to Funded Debt

Total Earnings Available for CapitalInvestors' Appraisal Of Risks Of Capital

Notes: (a) Quotations from National Quotation Bureau.  
 (b) After application of sinking fund payment of \$35,000 due April 1, 1941.

\$103,947  
 246,066  
 2,388  
\$352,401  
8.08%

[fol. 13489]

Appendix C  
Page 91Springfield Gas Light Company

	1937			
	Outstanding December 31	Price Range for Year		
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (\$25 par)	214,404 shs.	14 1/2	6 1/2	10.50
(a) 10 Year Notes 3's, 1946	\$500,000			100.00
(a) 10 Year Notes 3 1/2's, 1947	300,000			100.00
Total Indicated Market Value				\$3,051,242
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31, as reported				\$236,744
Add: Interest, etc.				33,786
Total Earnings Available for Capital				\$270,530
<u>Investors' Appraisal Of Risks Of Capital</u>				8.87%

Note: (a) Prices estimated.

[fol. 13490]

Springfield Gas Light Company

	1939			
	Outstanding December 31	Price Range for Year		
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (\$25 par)	214,404 shs.	14	9 1/2	11.75
(a) 10 Year Notes 3's, 1946	\$500,000			100.00
(a) 10 Year Notes 3 1/2's, 1947	300,000			100.00
Total Indicated Market Value				\$3,319,247
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31, as reported				\$274,342
Add: Interest, etc.				28,593
Total Earnings Available for Capital				\$302,935
<u>Investors' Appraisal Of Risks Of Capital</u>				9.13%

Note: (a) Prices estimated.

1938

	1938			
	Outstanding December 31	Price Range for Year		
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (\$25 par)	214,404 shs.	10	7	8.50
(a) 10 Year Notes 3's, 1946	\$500,000			100.00
(a) 10 Year Notes 3 1/2's, 1947	300,000			100.00
Total Indicated Market Value				\$1,822,434
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31, as reported				\$230,219
Add: Interest, etc.				29,784
Total Earnings Available for Capital				\$260,003
<u>Investors' Appraisal Of Risks Of Capital</u>				9.91%

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1940

	1940			
	Outstanding December 31	Price Range for Year		
		High	Low	Average
<u>Indicated Market Value Of Capital</u>				
Capital Stock (\$25 par)	214,404 shs.	15 1/2	13	14.25
(a) 10 Year Notes 3's, 1946	\$500,000			100.00
(a) 10 Year Notes 3 1/2's, 1947	300,000			100.00
Total Indicated Market Value				\$3,855,257
<u>Earnings Available For Capital</u>				
Net Income for years ended December 31, as reported				\$250,710
Add: Interest, etc.				27,908
Total Earnings Available for Capital				\$278,618
<u>Investors' Appraisal Of Risks Of Capital</u>				7.23%

Springfield Gas Light Company

1941				
Outstanding Dec. 31, 1940	Price/Range to Aug. 31		Average	Value
	High	Low		
214,404 shs.	13 1/2	12	12 75	\$2,733,651
\$500,000			100.00	500,000
300,000			100.00	300,000
				<u>\$3,533,651</u>

Indicated Market Value Of Capital

- (a) Capital Stock (\$25 par)  
 (b) 10 Year Notes 3's, 1946  
 (b) 10 Year Notes 3 1/2's, 1947

Total Indicated Market Value

Earnings Available For Capital

Net Income for year ended December 31, 1940,  
 as reported,  
 Add: Interest, etc.

\$250,710  
 27,908

Total Earnings Available for Capital

\$278,618

Investors' Appraisal Of Risks Of Capital

7.88%

Notes: (a) Quotations from National Quotation Bureau.  
 (b) Prices estimated.

[fol. 13492]

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## Washington Gas Light Company

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
(a) Common Stock (no par)	390,000 shs.	27 1/2	19 1/2	23.50	\$ 9,165,000	390,000 shs.	23 3/8	23	23.19	\$ 9,044,100
\$4.50 Cum. Pref. (no par)	20,000 shs.	100	97	98.50	1,970,000	35,600 shs.	106	97	101.50	3,613,400
Gen. Mtge. 5's, 1960	\$5,199,500	128	112	120.00	6,239,400	\$5,199,500	124	105	114.50	5,953,428
Ref. Mtge. 5's, 1958	8,500,000	108	104 1/4	106.12	9,020,200					
(b) " 4's, 1963						8,500,000			100.00	8,500,000
(c) " 4 1/4's, 1956	2,940,000			100.00	2,940,000	2,880,000			100.00	2,880,000
(d) Georgetown Gaslight 5's, 1961	1,000,000	125	111	118.00	1,180,000	1,000,000	118	113	115.50	1,155,000
Total Indicated Market Value					\$30,514,600					\$31,145,928
<b>Earnings Available For Capital</b>										
Net Income for Years ended December 31, as reported					\$ 760,207					\$1,005,983
Add: Interest on Funded Debt					860,350					916,847
Amortization of Debt Discount and Expense					94,202					85,023
(Includes small amount of other interest and miscellaneous deductions)										
Total Earnings Available for Capital					\$1,714,759					\$2,007,853
<b>Investors' Appraisal Of Risks Of Capital</b>										
					5.62%					6.45%

- Notes: (a) 1937 prices adjusted to reflect 3 for 1 split in June 1937.  
 (b) Offered privately in November 1938 to six insurance companies at 101 and accrued interest.  
 (c) Offered privately in 1936 to Metropolitan Life Insurance Co., New York.  
 (d) Quotations from Moody's Utility Manual.

[fol. 13493]

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## Washington Gas Light Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common Stock (no par)	425,000 shs.	30 1/4	27 1/4	28.75	\$12,218,750	425,000 shs.	28 3/4	20	24.37	\$10,357,250
\$4.50 Cum. Pref. (no par)	35,600 shs.	108 3/8	99	103.69	3,691,364	60,000 shs.	109	99	104.00	6,240,000
Gen. Mtge. 5's, 1960	\$5,199,500	130 1/2	112	121.25	6,304,394	\$5,199,500	132 1/2	123	127.75	6,642,361
(a) Ref. Mtge. 4 1/4's, 1956	2,720,000			100.00	2,720,000	2,560,000			105.00	2,688,000
(b) " 4's, 1963	8,500,000			100.00	8,500,000	8,500,000			105.00	8,925,000
(c) Georgetown Gaslight 5's, 1961	1,000,000	130	116 1/2	123.25	1,232,500	1,000,000	128	116	122.00	1,220,000
Total Indicated Market Value					\$34,667,008					\$36,072,611
<b>Earnings Available For Capital</b>										
Net Income for years ended December 31, as reported					\$1,231,797					\$1,313,942
Add: Interest on Long Term Debt					766,708					759,998
Amortization of Debt Discount and Expense					51,392					58,111
(Includes small amount of other interest and miscellaneous deductions)										
Total Earnings Available for Capital					\$2,049,897					\$2,131,961
<b>Investors' Appraisal Of Risks Of Capital</b>										
					5.91%					5.91%

- Notes: (a) Offered privately in 1936 to Metropolitan Insurance Co., New York. Price used in 1940 is call price.  
 (b) Offered privately in 1938 to six insurance companies at 101 and accrued interest. Price used in 1940 is call price.  
 (c) Quotations from Moody's Utility Manual.

Washington Gas Light Company

	Outstanding March 31	1941 Price Range to August 31			Value
		High	Low	Average	
(a) Common Stock (no par)	425,000 shs.	24	18 1/2	21 25	\$9,031,250
(b) \$4.50 Cum. Pref. (no par)	60,000 shs.	106	102	104 00	6,240,000
Gen. Mfge. 5's, 1940	\$5,199,500	132	125	128 50	6,681,358
(c) Ref. Mfge. 4 1/4's, 1956	2,460,000			105 00	2,520,000
(d)       "      4's, 1943	8,500,000			105 00	8,925,000
Georgetown Gaslight Co. 5's, 1961	1,000,000	125	121	123 00	1,230,000
Total Indicated Market Value					\$34,627,608

Earnings Available For Capital

Net Income for year ended March 31, as reported

Add: Interest on Long Term Debt, amortization of  
Debt Discount and Expense, etc.

\$1,296,247

Total Earnings Available for Capital

783,621

Investors' Appraisal of Risks of Capital

\$2,079,868

6.01%

Notes: (a) Listed on N. Y. Stock Exchange.

(b) Quotations from National Quotation Bureau.

(c) Price is 1941 call price. Offered privately in 1936 to Metropolitan Life Insurance Co., New York.

(d) Price is 1941 call price. Offered privately in 1938 to six insurance companies at 101.

## Consolidated Gas Utilities Corp.

	1937					1938				
	Outstanding October 31	Price Range for Year			Value	Outstanding October 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
Common Stock (\$1 par)	872,175 shs.	4 1/4	5/8	2.44	\$2,128,107	878,026 shs.	1 1/4	9/16	0.91	\$ 799,004
Consol. Gas Utilities Co. 1st & Col. "A" 6's, 1943	\$7,772,000	93 1/4	60	76.63	5,955,684	\$7,746,500	65 1/2	53 3/8	59.44	4,604,520
(a) Larutan Gas Corp. 1st 5 1/2's 1940	324,000	100	100	100.00	324,000	204,000			100.00	204,000
(b) Five Year 6% Notes due 1940	234,897			100.00	234,897	180,297			100.00	180,297
Total Indicated Market Value					<u>\$8,642,688</u>					<u>\$5,787,821</u>
<b>Earnings Available For Capital</b>										
Net Income for years ended October 31 as reported					\$ 74,542					\$ (412,681)
Add Bond and Note Interest					508,303					492,366
Total Earnings Available for Capital					<u>\$ 582,845</u>					<u>\$ 79,685</u>
<b>Investors' Appraisal Of Risks Of Capital</b>					6.74%					1.38%
(a) 1938 prices estimated										
(b) 1937-1938 prices estimated										

Notes: Parentheses indicate red figures

## Consolidated Gas Utilities Corp.

[illegible]

Consolidated Gas Utilities Corp.

	Outstanding July 31	1941 Price Range to August 31			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Common Stock (\$1 par)	886,026 shs.			1 50	\$1,329,039
(b) 1st Mtge. Sinking Fund 4's, 1945	\$6,500,000	1 3/4	1 1/4	100 00	6,500,000
(c) Ten Year 5's, 1951	900,000			100 00	900,000
Total Indicated Market Value					\$8,729,039
<u>Earnings Available For Capital</u>					
Net Income for year ended July 31 as reported					\$318,705
Add: Interest on funded debt					443,464
Refund of State taxes paid by security holders					6,749
Federal income taxes paid under bond covenants					3,290
Total Earnings Available for Capital					\$772,208
<u>Investors' Appraisal Of Risks Of Capital</u>					
Notes:					8 85%

(a) Listed on N. Y. Curb Exchange

(b) Prices estimated — sold privately in April, 1941 at 100 to a group of institutional investors

(c) Prices estimated — sold privately in April, 1941 at 100 to individual buyers

## El Paso Natural Gas Company

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$3 par)	593,743 shs.	29	14 1/2	21 75	\$12,913,910	600,853 shs.	29 7/8	17	23.44	\$14,083,994
(a) Pref. \$7 Cum.	14,797 shs.	107 1/4	99	103.13	1,526,015	14,797 shs.	108	100	104.00	1,538,888
1st Mtge. "A" 4 1/2's 1951	\$6,985,000	106 1/2	100 1/2	103.50	7,229,475					
(b) 1st Mtge. "B" 4's 1952	1,200,000			97.75	1,173,000					
Conv. Debs. 4 3/4's 1946	135,000	172 1/2	140	156.25	210,938					
(c) 1st Mtge. 3 1/2's 1953						\$6,000,000			98.50	5,910,000
(d) 3% Serial Notes 1940-5						4,000,000			100.00	4,000,000
Total Indicated Market Value					\$23,053,338					\$25,532,882
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$1,886,004					\$2,083,689
Add — Interest					381,574					395,465
Amort. of Debt Discount					33,372					31,658
Total Earnings Available for Capital					\$2,300,950					\$2,510,812
<u>Investors' Appraisal Of Risks Of Capital</u>					9.98%					9.83%

Notes: (a) Quotations from National Quotation Bureau  
 (b) Prices estimated — Privately sold Oct. 1, 1937 to four Insurance Companies at 97 3/4  
 (c) " " " " Dec. 15, 1938 to six Institutions at 98 1/2  
 (d) " " " " Dec. 15, 1938 to a New York Bank

## El Paso Natural Gas Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$3 par)	601,594 shs.	42 3/4	28	35 38	\$21,284,396	601,594 shs.	41 7/8	26	33.94	\$20,418,100
(a) Pref. 7% Cum. (\$100 par)	14,797 shs.	111 1/2	105	108.25	1,601,775	14,797 shs.	111 1/2	101	106.25	1,572,181
(b) 1st Mtge. 3 1/2's 1953	\$6,000,000			98.50	5,910,000	\$6,000,000			102.00	6,120,000
(c) 1st Mtge. 3's 1955						2,900,000			98.50	2,856,500
(d) 2 1/2% Notes Payable due 1941	800,000			100.00	800,000					
(e) 3% Serial Notes due 1940-1945	3,480,000			100.00	3,480,000	1,445,000			100.00	1,445,000
(f) 2 3/4% Serial Notes due 1941-1944						1,000,000			100.00	1,000,000
Total Indicated Market Value					\$33,076,171					\$33,411,781
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$2,358,198					\$2,360,538
Add: Interest					344,193					373,608
Amort. of Debt Discount					8,374					14,941
Total Earnings Available for Capital					\$2,710,765					\$2,749,087
<u>Investors' Appraisal Of Risks Of Capital</u>					8.20%					8.23%

Notes: (a) Quotations from National Quotation Bureau  
 (b) Prices estimated — Privately sold Dec. 15, 1938 to six Institutions at 98 1/2  
 (c) " " " " June 1940 " " " " 98 1/2  
 (d) " " " " Sept. 1939 to a N. Y. Bank  
 (e) " " " " Dec. 1938 " " " " "  
 (f) " " " " Feb. 1940 " " " " "



## Houston Natural Gas Corporation

	1937					1938					
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value	
		High	Low	Average			High	Low	Average		
<u>Indicated Market Value Of Capital</u>											
(a) Common Stock (no par)	158,289 shs.	22 1/2	10 3/4	16.63	\$2,632,346	158,289 shs.	10 1/4	6 3/4	8.50	\$1,345,457	
(a) Pref. 7% (\$50 par)	10,000 shs.	53	50	51.50	515,000	10,000 shs.	49	45	47.00	470,000	
1st Mtge. 6's 1943	\$2,680,500	104 3/4	98	101.35	2,717,491	\$2,715,500	104	98	101.00	2,742,655	
Total Indicated Market Value					\$5,864,837	Total Indicated Market Value					\$4,558,112
<u>Earnings Available For Capital</u>											
Net Income for years ended December 31 as reported					\$307,585					\$228,776	
Add: Bond Interest					150,845					160,322	
Amort. of Bond Discount					18,701					19,066	
Refunds to bondholders on account of taxes on bond interest, etc.					4,436					4,944	
Total Earnings Available for Capital					\$ 481,567	Total Earnings Available for Capital					\$ 413,108
<u>Investors' Appraisal Of Risks Of Capital</u>											
					8.21%					9.06%	

Note: (a) Quotations from Poor's Utility Manual

[fol. 13502]

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## Houston Natural Gas Corporation

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
(a) Common Stock (no par)	158,289 shs.	11 3/4	6	8.88	\$1,405,606	158,289 shs.	15	7	11.00	\$1,741,179
(a) Pref. 7% (\$50 par)	10,000 shs.	52 1/2	47	49.75	497,500	10,000 shs.	55	50	52.50	525,000
1st Mtge. 6's 1943	\$2,815,500	105	98	101.50	2,857,733					
1st Mtge. 4's 1955						\$3,500,000	105	100	102.50	3,587,500
Total Indicated Market Value					<u>\$4,760,839</u>					<u>\$5,853,679</u>
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$ 324,954					\$ 492,067
Add — Bond Interest					166,697					160,059
Amort. of Bond Discount					17,579					14,383
Refunds to bondholders on account of taxes on bond interest, etc.					5,282					3,941
Total Earnings Available for Capital					<u>\$ 514,512</u>					<u>\$ 670,450</u>
<u>Investors' Appraisal Of Risks Of Capital</u>										
					10.81%					11.45%

Note: (a) Quotations for 1939 from Poor's Utility Manual — for 1940 from National Quotation Bureau

Houston Natural Gas Corp.

	Outstanding Dec. 31, 1940	Price Range to Aug. 31 1941			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Common Stock (no par)	158,289 shs.	15	9	12.00	\$1,899,468
(a) Pref. 7% (\$50 par)	10,000 shs.	56	55	55.50	555,000
1st Mtge. S. F. 4's 1955	\$3,500,000	105	103	104.00	3,640,000
Total Indicated Market Value					\$6,094,468
<u>Earnings Available For Capital</u>					
Net Income for year ended December 31, 1940 as reported					\$492,007
Add: Bond Interest					160,059
Amortization of bond discount					14,383
Refunds to bondholders on account of taxes on bond interest, etc.					3,941
Total Earnings Available for Capital					\$670,450
<u>Investors' Appraisal Of Risks Of Capital</u>					
Note: (a) Quotations from National Quotation Bureau					11.00%

[fol. 13504]

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	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (no par)	952,953 shs.	33 1/2	17	25 25	\$24,062,063	952,953 shs.	25	17 1/2	21 25	\$20,250,251
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$2,383,513					\$2,032,488
<u>Investors' Appraisal Of Risks Of Capital</u>					9.91%					10.04%

[fol. 13505]

Appendix C  
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	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (no par)	952,953 shs.	26 1/2	21	23 75	\$22,632,634	952,953 shs.	27 3/4	20	23 88	\$22,756,518
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$2,014,221					\$1,972,286
<u>Investors' Appraisal Of Risks Of Capital</u>					8.90%					8.67%

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Appendix C  
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	Outstanding Dec. 31, 1940	1941			Value <sup>Ⓓ</sup>
		High	Low	Average	
Indicated Market Value (of Capital (a). Capital Stock (no par)	952,953 sha	25	19	22.00	\$20,364,965
Earnings Available For Capital Net Income for year ended December 31, 1940, as reported					\$1,972,286
Investors' Appraisal Of Risks Of Capital					9.41%

Note: (a) Quotations from National Quotation Bureau

## Lone Star Gas Corporation

	1937						1938				
	Outstanding December 31	Price Range for Year			Value		Outstanding December 31	Price Range for Year			Value
		High	Low	Average				High	Low	Average	
<b>Indicated Market Value Of Capital</b>											
Common Stock (no par)	5,533,747 shs.	14 1/4	5 1/4	9.75	\$53,954,033		5,529,747 shs.	10 1/2	6 5/8	8.56	\$47,334,334
Cum. Pref. 6 1/2% (\$100 par)	79,755 shs.	112	110	111.00	8,852,805						
Deb. 3 1/2's 1953							\$20,000,000	107	101 3/4	104.38	20,576,000
(a) Serial Notes 2 3/8's due to Aug. 1, 1945							11,300,000			100.00	11,360,000
(b) Mortgage Note Payable	\$267,900			100.00	267,900		170,900			100.00	170,900
(b) Bank Loan Notes	16,000,000			100.00	16,000,000						
(b) Dallas Gas Co. 7% Pref. (\$100 par)	1,079 shs.			100.00	107,900						
County Gas Co. 1st Mtge. 6's 1941	\$1,774,000	104 1/2	102 1/2	103.50	1,836,090						
County Gas Co. 1st Mtge. 5's 1946	1,595,000	106 1/2	104	105.25	1,678,738						
Council Bluffs Gas Co. 5's 1948	929,000	91 1/2	85	88.25	819,843						
Texas City Gas Co. 5's 1948	3,761,000	93	88	91.50	3,441,315						
Total Indicated Market Value					\$86,958,624						\$79,681,534
<b>Earnings Available For Capital</b>											
Net Income for years ended December 31 as reported					\$6,820,788						\$5,304,104
Add—Interest on Debentures					745,840						511,676
Notes Payable to Banks					468,755						455,989
Amortization of Debt Discount, etc.					64,172						38,620
Refunds of taxes to security holders					43,585						29,485
Total Earnings Available for Capital					\$8,143,140						\$6,339,854
Investors' Appraisal Of Risks Of Capital					9.36%						7.96%
Notes: (a) Sold privately in August 1938 to various banks											
(b) Prices estimated											

Notes: (a) Sold privately in August 1938 to various banks  
(b) Prices estimated

[fol. 13508]

## Lone Star Gas Corporation

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (no par)	5,518,347 shs.	10 1/2	7 1/8	8.81	\$48,616,637	5,507,975 shs.	10 3/4	7 5/8	9.19	\$50,618,290
Deb. 3 1/2's 1953	\$20,000,000	111 1/8	102 1/2	106.81	21,362,000	\$20,000,000	110	105	107.50	21,500,000
(a) Serial Notes 2 3/8's due to Aug. 1, 1945	8,750,000			100.00	8,750,000	6,200,000			100.00	6,200,000
(b) Mortgage Note Payable	67,700			100.00	67,700					
Total Indicated Market Value					\$78,796,337					\$78,318,290
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$5,402,871					\$6,453,731
Add — Interest on Debenture Bonds					700,000					700,000
“ “ Bank Notes Payable					261,115					169,069
Amortization of Debt Discount, etc.					31,537					31,537
Refunds of taxes to security holders					13,363					12,299
Total Earnings Available for Capital					\$6,408,886					\$7,366,636
<u>Investors' Appraisal Of Risks Of Capital</u>										
					8.13%					9.41%
Notes: (a) Sold privately in Aug. 1938 to various banks										
(b) Prices estimated										

Notes: (a) Sold privately in Aug. 1938 to various banks  
(b) Prices estimated

Lone Star Gas Corp.

1941

	Outstanding June 30	Price Range to Aug. 31			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
(a) Common Stock (no par)	5,505,275 shs.	10 1/8	8 3/8	9.25	\$50,923,794
(b) Serial Notes 2's, due to Aug. 1, 1950	\$21,850,000			100.00	21,850,000
(b) Notes, 2 1/4's, due Feb. 1, 1951	4,150,000			100.00	4,150,000
Total Indicated Market Value					\$76,923,794
<u>Earnings Available For Capital</u>					
Net Income for year ended June 30, as reported					
Add: Interest on Debentures					\$6,813,937
Interest on Bank Notes Payable					408,333
Amortization of Debt Discount, etc.					316,214
Taxes assumed on Interest					18,396
Total Earnings Available for Capital					12,617
					\$7,569,497
<u>Investors' Appraisal Of Risks Of Capital</u>					
					9.84%

Notes: (a) Listed on Pittsburgh Exchange. Carrying value of Common Stock at June 30, 1941, was lower than at Dec. 31, 1940, indicating that approximately 2,700 shares had been reacquired.

(b) Prices estimated — sold privately on Jan. 29, 1941 to eight commercial banks

Memphis Natural Gas Company

[fol. 13511]

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Note: (a) Prices estimated

Memphis Natural Gas Company					
	1939				
	Outstanding December 31	Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Common Stock (\$5 par)	918,680 shs.	5	3 1/4	4 13	\$3,794,148
(a) Promissory Notes to banks	\$1,610,000			100.00	1,610,000
Total Indicated Market Value					\$5,404,148
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$ 601,185
Add — Interest Paid					49,336
Amort. of Debt Discount					6,481
Total Earnings Available for Capital					\$ 657,002
Investors' Appraisal Of Risks Of Capital					12.16%

Note: (a) Prices estimated

Memphis Natural Gas Co.

1941

Outstanding  
Dec. 31, 1940After  
Adjustment  
for 1941  
Financing

Price Range to Aug. 31

High Low Average

Market Value

Indicated Market Value Of Capital

(a) Common Stock (\$5 par)

(b) Promissory Notes to Banks

918,680 shs.

\$400,000

5 1/8

4

4.57

100.00

\$4,198,368

400,000

Total Indicated Market Value

\$4,598,368

Earnings Available For CapitalNet Income for year ended December 31, 1940,  
as reported

Add: Interest Paid

Amortization of Debt Discount

\$636,710

53,756

11,387

Total Earnings Available for Capital

\$701,853

Investors' Appraisal Of Risks Of Capital

15.26%

Notes: (a) Listed on N. Y. Curb Exchange

(b) Price estimated. On April 1, 1941, the collateral securing the promissory notes payable to banks was sold and the proceeds applied to the reduction of the notes, leaving the balance of \$400,000 outstanding.

[fol. 13513]

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## Montana - Dakota Utilities Company

1937

1938

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value	
		High	Low	Average			High	Low	Average		
<u>Indicated Market Value Of Capital</u>											
Common Stock (\$10 par)	676,658 shs.	17	5	11 00	\$7,443,238	676,653 shs.	7 1/2	4 1/2	6 00	\$4,059,918	
(a) Cum. Pref. 6% (\$100 par)	17,739 shs.	81 1/2	59	70 25	1,246,165	17,739 shs.	65	54	59 50	1,055,470	
(a) " 5% (\$100 par)	59,593 shs.	69	52	60 50	3,605,376	59,593 shs.	60 1/2	44	52 25	3,113,734	
(b) Unsecured Serial 4 1/4% Bank Notes to 1945	\$1,500,000			100 00	1,500,000	\$1,200,000			100 00	1,200,000	
10 Year Conv. Debs. 4 1/2's 1946	1,812,000	100	70	85 00	1,540,200	1,512,000	86	46	76 00	1,377,120	
(b) Purchase Contract Obligations	38,008			100 00	38,008	32,507			100 00	32,507	
(a) 1st Mtge. 5 1/2's 1944	6,674,000	100 1/2	91	95 75	6,390,355	6,713,000	100	86	93 00	6,243,090	
Minn. Northern Pr. Co., Montana-Dakota Util. Co., & Gas Development Co. 1st 6's 1944	3,250,000	101 1/4	95	98 13	3,189,225	3,100,000	101 1/4	98	99 63	3,088,530	
(a) Consolidated Utilities Co. 1st 6's 1946	211,000	100	96	98 00	206,780	209,000	101	99	100 00	209,000	
(c) Bowdoin Utilities Co. 1st 6's 1945	136,000			100 00	136,000	132,000	99	97	98 00	129,360	
Total Indicated Market Value					\$25,295,347						\$20,508,729

Earnings Available For Capital

Net Income for years ended December 31 as reported	\$840,330	\$809,669
Add — Interest on 1st Mortgage Bonds	601,018	583,412
Other Interest	172,678	151,858
Amortization of Debt Discount and Expense	78,532	73,128
Total Earnings Available for Capital	\$1,692,558	\$1,618,067

Investors' Appraisal Of Risks Of Capital

6.69%	7.89%
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- Notes: (a) Quotations from Poor's Utility Manuals  
 (b) Prices estimated  
 (c) 1937 prices estimated — 1938 quotations from Poor's Utility Manual

[fol. 13514]

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## Montana - Dakota Utilities Company

1939

1940

	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$10 par)	676,652 shs.	7 1/4	5 1/4	6 25	\$4,229,075	676,652 shs.	9 1/2	6	7 75	\$5,244,053
(a) Cum. Pref. 6% (\$100 par)	17,739 shs.	88 1/2	64	76 25	1,352,599	17,739 shs.	100	83	91 50	1,623,118
Cum. Pref. 5% (\$100 par)	59,593 shs.	78 1/2	56	67 25	4,007,629	59,593 shs.	90 1/4	73	81 63	4,864,577
1st Mtge. S.F. 4 1/2's 1954	\$9,000,000	106 1/4	100	103 13	9,281,700	\$8,800,000	107	104	105 50	9,284,000
(b) Unsecured Serial 4 1/4% Bank Notes to 1945	2,100,000			100 00	2,100,000					
10 Year Conv. Debs. 4 1/2's 1946	1,812,000	98	81 1/2	89 75	1,626,270					
(b) Purchase Contract Obligations	27,006			100 00	27,006	21,505			100 00	21,505
(c) 1st Mtge. S.F. 4 1/2's 1956						1,200,000			100 00	1,200,000
(c) Serial Notes 1 1/2% to 3 1/2% 1941-50						3,900,000			100 00	3,900,000
Total Indicated Market Value					\$22,624,279	\$26,137,253				

Earnings Available For Capital

# Indicated Market Value Of Capital

Common Stock (\$10 par)	676,658 shs.	17	5	11 00	\$7,443,238	676,653 shs.	7 1/2	4 1/2	6 00	\$4,059,918
(a) Cum. Pref. 6% (\$100 par)	17,739 shs.	81 1/2	59	70 25	1,246,165	17,739 shs.	65	54	59 50	1,055,470
(a) " 5% (\$100 par)	59,593 shs.	69	52	60 50	3,605,376	59,593 shs.	60 1/2	44	52 25	3,113,734
(b) Unsecured Serial 4 1/4% Bank Notes to 1945	\$1,500,000			100 00	1,500,000	\$1,200,000			100 00	1,200,000
10 Year Conv. Debs. 4 1/2's 1946	1,812,000	100	70	85 09	1,540,200	1,812,000	80	66	76 00	1,377,120
(b) Purchase Contract Obligations	38,008			100 00	38,008	32,507			100 00	32,507
(a) 1st Mtge. 5 1/2's 1944	6,674,000	100 1/2	91	95 75	6,390,355	6,713,000	100	86	93 00	6,243,090
Minn. Northern Pr. Co., Montana-Dakota Util. Co., & Gas Development Co. 1st 6's 1944	3,250,000	101 1/4	95	98 13	3,189,225	3,100,000	101 1/4	98	99 63	3,088,530
(a) Consolidated Utilities Co. 1st 6's 1946	211,000	100	96	98 00	206,780	206,000	101	99	100 00	209,000
(c) Bowdon Utilities Co. 1st 6's 1945	136,000			100 00	136,000	132,000	99	97	98 00	129,360
Total Indicated Market Value					\$25,295,347					\$20,508,729

# Earnings Available For Capital

Net Income for years ended December 31 as reported	\$340,330	\$809,569
Add — Interest on 1st Mortgage Bonds	601,018	583,412
Other Interest	172,678	151,958
Amortization of Debt Discount and Expense	78,532	73,128
Total Earnings Available for Capital	\$1,092,558	\$1,618,067

# Investors' Appraisal Of Risks Of Capital

6.69% 7.89%

Notes: (a) Quotations from Poor's Utility Manuals  
(b) Prices estimated  
(c) 1937 prices estimated — 1938 quotations from Poor's Utility Manual

[fol. 13514]

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## Montana - Dakota Utilities Company

	Outstanding December 31	Price Range for Year 1939			Value	Outstanding December 31	Price Range for Year 1940			Value
		High	Low	Average			High	Low	Average	
Indicated Market Value Of Capital										
Common Stock (\$10 par)	676,652 shs.	7 1/4	5 1/4	6 25	\$4,229,075	676,652 shs.	9 1/2	6	7 75	\$5,244,053
(a) Cum. Pref. 6% (\$100 par)	17,739 shs.	88 1/2	64	76 25	1,352,599	17,739 shs.	100	83	91 50	1,623,118
Cum. Pref. 5% (\$100 par)	59,593 shs.	78 1/2	56	67 25	4,007,629	59,593 shs.	90 1/4	73	81 63	4,864,577
1st Mtge. S.F. 4 1/2's 1954	\$9,000,000	106 1/4	100	103 13	9,281,700	\$8,800,000	107	104	105 50	9,284,000
(b) Unsecured Serial 4 1/4% Bank Notes to 1945	2,100,000			100 00	2,100,000					
10 Year Conv. Debs. 4 1/2's 1946	1,812,000	98	81 1/2	89 75	1,626,270					
(b) Purchase Contract Obligations	27,006			100 00	27,006	21,505			100 00	21,505
(c) 1st Mtge. S.F. 4 1/2's 1956						1,200,000			100 00	1,200,000
(c) Serial Notes 1 1/2% to 3 1/2% 1941-50						3,900,000			100 00	3,900,000
Total Indicated Market Value					\$22,024,279					\$26,137,253
Earnings Available For Capital										
Net Income for years ended December 31 as reported					\$ 769,698					\$1,009,924
Add — Interest on 1st Mortgage Bonds					593,430					
Interest on Funded Debt										591,842
Other Interest					171,847					
Amortization of Debt Discount and Expense					42,504					52,578
" Premium on Debt										(688)
Total Earnings Available for Capital					\$1,577,479					\$1,655,656
Investors' Appraisal Of Risks Of Capital					6.97%					6.33%

Notes: (a) Quotations for 1939 from Poor's Utility Manual and 1940 from National Quotation Bureau  
(b) Prices estimated  
(c) — sold privately in November-December, 1940 at 100 to five institutions  
Parentheses indicate red figures

Montana-Dakota Utilities Co.

4534

Indicated Market Value of Capital	Outstanding June 30	1941 Price Range to Aug. 31			Value
		High	Low	Average	
(a) Common Stock (\$10 par)	676,652 shs.	11 1/2	7 7/8	9 69	\$6,556,738
(a) Cum. Pref. 6% (\$100 par)	17,739 shs.	102 1/2	93	97 75	1,733,987
(a) Cum. Pref. 5% (\$100 par)	59,593 shs.	95 3/4	86	90 88	5,415,812
1st Mtge. 3 1/2's, 1961	\$7,500,000	107	102 7/8	104 94	7,870,500
1st Mtge. Serial 2 1/2's, 1942 to 1949.	2,500,000	101	100	100 50	2,512,500
(b) Serial Notes 2 to 3-1/2 1942 to 1950	3,510,000			100 00	3,510,000
(c) Serial Purchase Contracts	16,004			100 00	16,004
Total Indicated Market Value					\$27,615,561

Earnings Available For Capital

- (d) Net Income for year ended June 30, as reported
- Add: Interest on first mortgage bonds
- Interest on Other Funded Debt
- Amortization of Debt Discount and Expense
- Amortization of Premium on Debt

Total Earnings Available for Capital

\$1,011,485

425,411

138,800

33,362

(4,000)

\$1,604,968

5.81%

Investors' Appraisal of Risks Of Capital

- Notes: (a) Quotations from National Quotation Bureau.
- (b) Price estimated -- sold privately in Nov., Dec., 1940 at \$100 to five institutions
- (c) Price estimated
- (d) After deduction of provision for income tax of \$200,000 as estimated by Standard & Poor's Corporation.



[fol. 13516]

Appendix C  
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	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$10 par)	1,989,902 shs.	12 7/8	3 7/8	8.38	\$16,675,379	1,989,902 shs.	6 5/8	4 1/4	5.44	\$10,825,067
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$654,141					\$758,027
<u>Investors' Appraisal Of Risks Of Capital</u>					3.92%					7.00%

[fol. 13517]

Appendix C  
Page 119Mountain Fuel Supply Company

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Capital Stock (\$10 par)	1,989,902 shs.	5 1/2	4	4 7/8	\$9,452,034	1,989,902 shs.	6 1/2	4 7/8	5 69	\$11,322,542
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$902,055					\$950,069
<u>Investors' Appraisal Of Risks Of Capital</u>					9.54%					8.39%

Mountain Fuel Supply Co.

Outstanding Dec. 31, 1940	Price Range to Aug. 31 1941			Value
	High	Low	Average	
1,980,902 shs.	6	5 1/8	5 56	\$11,063,853

Indicated Market Value of Capital:

(a) Capital Stock (\$10 par)

Earnings Available For CapitalNet Income for year ended December 31, 1940,  
as reportedInvestors' Appraisal of Risks Of Capital

Note: (a) Listed on Pittsburgh Exchange

\$950,000

8.59%

[fol. 13519]

National Fuel Gas Company

	Outstanding December 31	1937 Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Capital Stock (no par)	3,810,183 shs.	19 1/2	12	15 75	\$60,010,382
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$3,660,300
<u>Investors' Appraisal Of Risks Of Capital</u>					6.10%

[fol. 13520]

National Fuel Gas Company

	Outstanding December 31	1939 Price Range for Year			Value
		High	Low	Average	
<u>Indicated Market Value Of Capital</u>					
Capital Stock (no par)	3,810,183 shs.	14	11 1/4	12 63	\$48,122,611
<u>Earnings Available For Capital</u>					
Net Income for years ended December 31 as reported					\$3,601,477
<u>Investors' Appraisal Of Risks Of Capital</u>					7.48%

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	Outstanding December 31	1938 Price Range for Year			Value
		High	Low	Average	
	3,810,183 shs.	14 5/8	11 1/2	13.06	\$49,760,990
					\$3,179,213
					6.39%

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	Outstanding December 31	1940 Price Range for Year			Value
		High	Low	Average	
	3,810,183 shs.	13 1/8	10	11.56	\$44,045,715
					\$4,283,237
					9.72%

National Fuel Gas Co.

Outstanding Dec. 31, 1940	Price Range to Aug. 31 1941		Value
	High	Low	
3,810,183 shs.	11 1/4	10	\$40,464,143
		10 62	
			\$4,283,237
			10 59%

Indicated Market Value Of Capital

(a) Capital Stock (no par)

Earnings Available For CapitalNet Income for year ended December 31, 1940,  
as reportedInvestors' Appraisal Of Risks Of Capital

Note: (a) Quotations from National Quotation Bureau

## Oklahoma Natural Gas Company

4539

	1937					1938				
	Outstanding November 30	Price Range for Year			Value	Outstanding November 30	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$15 par)	549,986 shs.	14 3/4	6 5/8	10.68	\$5,873,850	549,986 shs.	14 1/4	6 3/4	10.50	\$5,774,853
Pref. \$3 Cum. (\$50 par)	91,050 shs.	32.58	19 1/2	26.06	2,372,763	91,050 shs.	41 1/2	21 1/2	31.50	2,868,075
Prior Pref. 6% Conv. (\$100 par)	22,200 shs.	106	85	95.50	2,120,100	22,200 shs.	105 3/4	89	97.38	2,161,836
1st Mtge. Ser. "A" 4 1/2's 1951	\$17,971,000	100 3/8	92	96.19	17,286,305	\$17,709,000	106	96	101.00	17,886,090
Conv. Debs. 5's 1946	10,000,000	108 1/2	79	93.75	9,375,000	10,000,000	106	83	94.50	9,450,000
Total Indicated Market Value					\$37,028,018					\$38,140,854
<u>Earnings Available For Capital</u>										
Net Income for years ended November 30 as reported					\$1,578,437					\$1,426,595
Deduct — Prov. for taxes on undist. profits					40,000					85,000
					1,538,437					1,341,595
Add — Interest on Funded Debt					1,330,040					1,301,568
Amort. of Debt Discount					113,669					110,883
Taxes on tax free covenant securities					9,947					12,367
Total Earnings Available for Capital					\$2,992,093					\$2,766,413
Investors' Appraisal Of Risks Of Capital					8.08%					7.25%

## Oklahoma Natural Gas Company

	1939					1940				
	Outstanding August 31	Price Range for Year			Value	Outstanding August 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock (\$15 par)	549,986 shs.	19 7/8	8 7/8	14.38	\$7,908,799	550,000 shs.	21 3/4	13 1/4	17.50	\$9,625,000
Pref. \$3 Cum. (\$50 par)	91,050 shs.	30	35	42.00	3,824,100	91,055 shs.	54	39	46.50	4,234,058
Prior Pref. Conv. \$5.50 (no par)	58,000 shs.	113	106	109.50	6,351,000	58,000 shs.	117	100	108.50	6,293,000
1st Mtge. Ser. "B" 3 3/4's 1955	\$17,000,000	107 7/8	91 1/4	99.56	16,925,200	\$16,800,000	109	104 1/8	106.56	17,902,080
Bank Loans — Serially to 1946	8,000,000			100.00	8,000,000	6,400,000			100.00	6,400,000
Total Indicated Market Value					\$43,009,099					\$44,454,138
<u>Earnings Available For Capital</u>										
Net Income for years ended August 31 as reported					\$1,554,868					\$2,612,744
Deduct — Prov. for taxes on undist. profits					85,000					1,776
Amort. of Bond Premium										
					1,469,868					2,610,968
Add — Interest on Funded Debt					1,283,498					865,925
Amort. of Discount					110,592					
Taxes on Tax Free Covenant Securities					15,014					13,244

## Oklahoma Natural Gas Co.

4540

Outstanding July 31	Price Range to Aug. 31			Value
	High	Low	Average	
550,000 shs.	21 3/4	.18	19 88	\$10,934,000
58,000 shs.	16 1/2	107 1/2	112 00	6,496,000
91,055 shs.	54	48	51 00	4,643,805
\$16,800,000	109	106 1/4	107 62	18,080,160
4,500,000			100 00	4,500,000
5,500,000			100 00	5,500,000

## Total Indicated Market Value

\$50,153,965

## Earnings Available For Capital

Net Income for year ended July 31, as reported  
Deduct: Amortization of Bond Premium

\$2,490,173  
9,526

Add: Interest on Funded Debt

2,480,647  
790,522

## Total Earnings Available for Capital

\$3,271,169

## Investors' Appraisal Of Risks Of Capital

6 52

Notes: (a) Listed on N. Y. Curb Exchange

(b) Price estimated. These bonds were sold and the proceeds used to acquire the gas properties of Central States Power & Light Corporation, effective July 31, 1941. The properties acquired had annual gross earnings of approximately \$1,296,000, but no part of net income is included in earnings for the twelve months ended July 31, 1941.

## Pacific Lighting Corporation

	1937					1938				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock	1,608,631 shs.	53 3/4	34 3/4	44 25	\$71,181,922	1,608,631 shs.	43 1/8	32 1/4	37 69	\$60,629,302
\$6 Preferred	196,665 shs.	107 3/8	98	102 69	20,195,529	196,665 shs.	109	98 1/4	103 63	20,380,394
S. F. Debs. 4 1/2's 1945	\$7,000,000	105 1/2	103	104 25	7,297,500	\$7,000,000	106	102	104 00	7,280,000
So. Cal. Gas Co. 6% Pref. (\$25 par)	902,894 shs.	31	27 3/4	29 38	26,527,026	901,504 shs.	32	27 1/2	29 75	26,819,744
" " " 1st & Ref. 4 1/2's 1961	\$12,500,000	108 1/2	105	106 75	13,343,750	\$12,500,000	108 1/4	106 1/2	107 38	13,422,500
" " " 1st & Ref. 4's 1965	15,000,000	107 1/2	101 5/8	104 56	15,684,000	15,000,000	110 1/4	106 3/4	108 50	16,275,000
So. Counties Gas Co. of Cal. 1st 4 1/2's 1968	11,500,000	105 1/2	102 1/2	104 00	11,960,000	11,500,000	106 1/2	103 1/2	105 00	12,075,000
Total Indicated Market Value					\$166,189,727					\$156,881,940
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$9,237,154					\$9,250,295
Add — Interest on Funded Debt					2,165,939					1,995,000
Amort. of Bond Discount					596,767					298,869
					11,999,860					11,544,164
Deduct — Dividends on Subsidiary Common Stock					132					154
Total Earnings Available for Capital					\$11,999,728					\$11,544,010
<u>Investors' Appraisal Of Risks Of Capital</u>					7.22%					7.36%

## Pacific Lighting Corporation

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<u>Indicated Market Value Of Capital</u>										
Common Stock	1,608,631 shs.	50 7/8	41	45 94	\$73,900,508	1,608,631 shs.	50	33	41 50	\$66,758,186
\$5 Preferred	200,000 shs.	109 3/8	99	104 19	20,838,000	200,000 shs.	108 3/4	100	104 38	20,876,000
(a) Long Term Bank Loans 3% 1941-1949	\$6,500,000			100 00	6,500,000	\$6,000,000			100 00	6,000,000
So. Cal. Gas Co. 6% Pref. (\$25 par)	899,289 shs.	34 1/2	28 1/2	31 50	28,327,603	897,564 shs.	35	28 1/2	31 75	28,497,657
" " " 1st & Ref. 4 1/2's 1961	\$12,500,000	109 1/8	103 3/4	106 44	13,305,000					
" " " 1st & Ref. 4's 1965	15,000,000	116 3/4	105	107 88	16,182,000					
" " " 1st 3 1/4's 1970						\$30,000,000	107 3/4	104 1/2	106 13	31,839,000
So. Counties Gas Co. of Cal. 1st 4 1/4's 1968	11,500,000	106	103 1/2	104 75	12,046,250	11,500,000	105 5/8	102 5/8	104 13	11,974,950
Total Indicated Market Value					\$171,099,361					\$165,945,793
<u>Earnings Available For Capital</u>										
Net Income for years ended December 31 as reported					\$8,238,205					\$7,380,059
Add — Interest on Funded Debt					1,917,417					1,828,750
Amort. of Bond Discount					599,885					191,633
					10,755,507					9,400,442
Deduct — Dividends on Subsidiary Common Stock					154					119
Total Earnings Available for Capital					\$10,755,353					\$9,400,323
<u>Investors' Appraisal Of Risks Of Capital</u>					6.29%					5.66%

Note: (a) Prices estimated

Pacific Lighting Corp.

Indicated Market Value Of Capital -	Outstanding June 30	Price Range to Aug. 31 1941			Value
		High	Low	Average	
(a) Common Stock	1,608,631 shs.	40	32 1/2	36 25	\$ 58,312,874
(b) \$5 Preferred	200,000 shs.	107 3/4	101 1/2	104 62	20,924,000
(c) Long Term Bank Loans, 3%, 1941-1949	\$ 5,500,000			100 00	5,500,000
(d) So. Cal. Gas Co. 6% Pfd. (\$25 par)	897,564 shs.	33 3/4	33 3/4	33 75	30,292,785
"    "    " 1st Mtge. 3 1/4's, 1970	\$35,000,000	108	104 1/2	106 25	37,387,500
(e) So. Counties Gas Co. of Cal. 1st 3's, 1971	11,500,000	104 3/4	101	102 88	11,831,200
Total Indicated Market Value					\$164,048,359

Earnings Available For Capital

Net Income for year ended June 30, as reported

Add: Interest on Funded Debt

Amortization of Bond Discount and Expense

\$8,000,079  
1,671,146  
55,677

Deduct: Dividends on Subsidiary Common Stock

9,726,902  
108

Total Earnings Available for Capital

\$9,726,794

Investors' Appraisal Of Risks Of Capital

Notes: (a) Listed on N. Y. Stock Exchange

(b) Listed on San Francisco Stock Exchange

(c) Prices estimated

(d) Listed on Los Angeles Exchange

(e) Issued in January, 1941, the proceeds of which were used to redeem the 4 1/2's of 68

5.93%



Panhandle Eastern Pipe Line Company

4544

Indicated Market Value Of Capital	Outstanding June 30	Price Range to Aug. 31			Value
		High	Low	Average	
(a) Common Stock (no par) Pref. \$6 Cum. (no par):	807,367 shs.	40	33	36 50	\$29,408,896
(b) Class A Part. and Redeemable	100,000 shs.			100 00	10,000,000
(b) Class B Non-Part. and Non-Redeemable	10,000 shs.			125 00	1,250,000
1st Mtge. & 1st Lien S. F. "B" 3's, 1940	\$12,000,000	104 1/8	99 3/4	101 94	12,232,800
(c) 1st Mtge. & Trust Lien "A" 1.65-2.30%, 1946-1950	6,250,000			100 00	6,250,000
(c) Serial Notes A, B, C & D 0.75-1.50%, due 4/1/42-45	5,000,000			100 00	5,000,000
(d) Other Long Term Debt	17,544			100 00	17,544
Total Indicated Market Value					\$64,219,240

Earnings Available For Capital

Net Income for 12 months ended June 30, as reported  
Add: Interest on Funded Debt  
Amortization of Debt Discount and Expense

\$4,784,971  
751,924  
306,535

Total Earnings Available for Capital

\$5,843,430

Investors' Appraisal Of Risks Of Capital

9 10 7

Notes: (a) Quotations from National Quotation Bureau

(b) Prices estimated. Amounts used are the prices at which redemption of the stocks is contemplated.

(c) Prices estimated — sold privately in January, 1941 at 100 to several banking institutions and one insurance company.

(d) Prices estimated

**Southern Natural Gas Company**

	1937					1938				
	Outstanding <sup>s</sup> December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
(a) Class A Stock (no par)	554,501 shs.	16 3/4	8 3/4	12.75	\$7,069,888	554,501 shs.	11 3/4	8 1/2	10.13	\$5,617,095
(a) Class B Stock (no par)	274,939 shs.	7 1/2	3 3/4	5.63	1,547,907	274,939 shs.	5 5/8	3 1/4	4.44	1,220,729
1st Mtge. 4 1/2's 1951	\$14,206,000	101 1/2	94 1/2	98.00	13,927,880	\$12,939,000	102	90	96.00	12,421,440
(b) 1st Mtge. 4 1/2's 1952	650,000			98.00	637,000	616,000			96.00	591,360
Adj. Mtge. 6's 1960	5,771,577	95	71	83.00	4,790,409	5,771,523	91 1/2	70 1/2	81.00	4,674,934
(c) Collateral Notes (N. Y. Trust Co.)	1,825,000			100.00	1,825,000	1,475,000			100.00	1,475,000
Alabama Gas Co. 1st 4 1/2's 1951	1,446,000	99 1/4	79 1/2	89.38	1,287,072	1,385,000	97	79 1/4	88.13	1,220,600
(d) Alabama Nat. Gas Co.— City of Talladega 5's 1947	40,000			100.00	40,000	40,000			100.00	40,000
<b>Total Indicated Market Value</b>					<b>\$31,119,156</b>					<b>\$27,261,158</b>
<b>Earnings Available For Capital</b>										
Net Income for years ended December 31 as reported					\$1,392,184					\$1,033,665
Add — Interest on Funded Debt					1,159,598					1,132,389
Amort. of Bond Discount					94,165					90,028
<b>Total Earnings Available for Capital</b>					<b>\$2,645,947</b>					<b>\$2,256,082</b>
<b>Investors' Appraisal Of Risk Of Capital</b>					<b>8.50%</b>					<b>8.28%</b>

Notes:

- (a) Quotations from Poor's Utility Manuals
- (b) Prices estimated — privately sold Dec. 1937 to an insurance company at 97 3/4
- (c) " "
- (d) " "

\* After extraordinary deduction of \$226,326 for cost and expenses of natural gas exploration.

[fol. 13531]

**Southern Natural Gas Company**

	1939					1940				
	Outstanding December 31	Price Range for Year			Value	Outstanding December 31	Price Range for Year			Value
		High	Low	Average			High	Low	Average	
<b>Indicated Market Value Of Capital</b>										
(a) Common Stock (\$7.50 par)	691,970 shs.	16 1/8	7 1/2	11 81	\$8,172,166	691,970 shs.	19 1/2	12	15 75	\$10,898,527
1st Mtge. 4 1/2's 1951	\$12,408,000	106 3/8	100 3/4	103 56	12,849,725	\$11,374,000	107 1/4	104	105 83	12,014,356
(b) 1st Mtge. 4 1/2's 1952	572,000			103 50	592,020	528,000			105 50	557,040
Adj. Mtge. 6's 1960	5,771,523	100 1/2	90	95 25	5,497,376	5,771,523	102 1/2	90	96 25	5,555,091
(c) Collateral Notes (First Nat. Bk. Birmingham)	800,000			100 00	800,000	600,000			100 00	600,000
Alabama Gas Co. 1st 4 1/2's 1951	1,385,000	101 1/2	91 1/2	96 50	1,338,525	1,381,000	104 1/2	100 1/2	102 50	1,415,525
(d) Alabama Nat. Gas Corp. — City of Talladega 5's 1947	40,000			100 00	40,000	40,000			100 00	40,000
<b>Total Indicated Market Value</b>					<b>\$29,287,812</b>					<b>\$31,080,539</b>
<b>Earnings Available For Capital</b>										
Net Income for years ended December 31 as reported					\$1,765,412					\$2,194,126
Add — Interest on Funded Debt					1,056,340					1,000,622
Amort. of Debt Discount and Expense					85,656					80,889
<b>Total Earnings Available for Capital</b>					<b>\$2,907,408</b>					<b>\$3,275,637</b>
<b>Investors' Appraisal Of Risk Of Capital</b>					<b>9.93%</b>					<b>10.54%</b>

Notes: (a) Quotations — 1939 Poor's Utility Manual — 1940 National Quotation Bureau  
 (b) Prices estimated — privately sold Dec. 1937 to an insurance company at 97 3/4  
 (c) " " "  
 (d) " " "

Southern Natural Gas Co.

1941

Outstanding June 30

Price Range to June 31

Value

Indicated Market Value Of Capital

(a) Common Stock (\$7.50 par)

1st Mtge. Pipe Line S. F. 3 1/4's, 1956

(b) Serial Notes 2 1/2's, 1942 to 1947

Alabama Gas Co. 1st Mtge. 4 1/2's, 1951

Alabama Natural Gas Corp.

(c) City of Talladega 5's, 1947

7,297,447 shs.

\$13,000,000

4,500,000

1,381,000

40,000

13 1/8

104 1/2

103

105

101

11 81

103 75

100 00

103 00

100 00

\$15,322,849

13,487,500

4,500,000

1,422,430

40,000

Total Indicated Market Value

\$34,772,779

Earnings Available For Capital

Net Income for year ended June 30, as reported

Add: Interest on Funded Debt

Amortization of Debt Discount and Expense

\$2,646,108

999,968

74,396

Total Earnings Available for Capital

\$3,720,472

Investors' Appraisal Of Risks Of Capital

Notes: (a) Listed on N. Y. Stock Exchange

(b) Prices estimated — sold privately in May, 1941 to four banking institutions

(c) Price estimated

10 70

[fol. 13533]

(Exhibit 65.)

Study Relative to Rate of Return  
on  
Panhandle Eastern Pipe Line Company.

Prepared By

Paul B. Coffman, Vice President  
Standard & Poor's Corporation

Dated October 6, 1941.

[fol. 13534]

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[fol. 13537] Determination of Economic Return Requirement For Panhandle Eastern Pipe Line Company.

By Paul B. Coffman

### Statement Of Experience And Qualifications

#### 1. Name, Address and Age

Paul B. Coffman, 222 Sylvania Place, Westfield, N. J., Age 40.

#### 2. Education

Graduate of Ohio State University, 1923, with degree of Bachelor of Science; graduate of Harvard University Graduate School of Business Administration, 1926, with degree of Master of Business Administration.

#### 3. Present Position

Vice President, in charge of Research and Valuation, and Director, of Standard & Poor's Corporation (recently

formed as a consolidation of Standard Statistics Company, Inc. and Poor's Publishing Company), a corporation engaged, among other things, in gathering, collating, analyzing and disseminating statistical and general information on all phases of business, industry and investments and offering professional, industrial consulting, valuation and research services.

#### 4. Experience and Qualifications

Upon graduation in 1926 from Harvard University I became Professor of Economics and Accounting at the College of William and Mary, Williamsburg, Virginia. In September 1927, I returned to the Harvard Graduate School of Business Administration, where I joined the Faculty and became an assistant professor and tutor and remained until the end of 1936. The particular subjects I taught were accounting, corporate management and business policy.

While teaching at the Graduate School of Business Administration at Harvard University, I also served as consulting economist for a number of industrial and financial advisory corporations, including both Standard Statistics Company, Inc., with which I became associated in 1928, and Poor's Publishing Company, publisher of Poor's Manuals, with which I became associated in 1931, and which are the predecessor companies of the present Standard & Poor's Corporation. During 1931 and 1932 I served as Executive Vice President and General Manager of Poor's Publishing Company. Also, I was collaborator on several books of accounting and business policy and author of several articles.

Over a period of years I have been retained to make investigations upon a large number of diversified situations, many of which required that I present my analysis and testify as to my conclusions before the courts, the Internal Revenue Department, the Board of Tax Appeals, and several regulatory bodies, such as, the Civil Aeronautics Authority, State Public Utility Commissions and the Federal Power Commission.

[fol. 13538] Analysis Leading To Determination of Economic Return Requirement For Panhandle Eastern Pipe Line Company.

Synopsis Of History And Development Of Company.

History

Panhandle Eastern Pipe Line Co., (hereinafter sometimes referred to as Panhandle Eastern) was incorporated in Delaware, December 23, 1929, as the Interstate Pipe Line Co. and adopted its present title on May 9, 1930. Illinois Natural Gas Co., a wholly-owned subsidiary, was organized January 19, 1938 and in July, 1938, acquired from Panhandle Illinois Pipe Line Co. its facilities devoted exclusively to service of customers in Illinois. Main transmission facilities of the latter were conveyed in liquidation to the parent company.

Panhandle Eastern formerly owned the entire outstanding stock of Central Distributing Co., selling gas at retail in Kansas and Missouri, but disposed of such stock on January 25, 1941, by distributing it to stockholders as a dividend.

Corporate Background

Panhandle Eastern does a large wholesale business in natural gas. It purchases about half its requirements and produces the remainder. About 93% of total supply is sold to companies engaged in the distribution of natural gas for general purposes, and most of remaining 7% finds its way to industrial concerns.

The largest single customer is Michigan Consolidated Gas Company, which purchases about 40% of the total M. C. F. sold by Panhandle Eastern Pipe Line Co. and resells it in Detroit and Ann Arbor, Michigan, and environs. Natural gas is delivered to this customer through the pipeline system of Michigan Gas Transmission Corp. (a wholly-owned subsidiary of Columbia Gas & Electric Corp.).

Panhandle Eastern also sells gas to Michigan Gas Transmission Corp. for resale to certain distributing companies and municipalities in Indiana, more important of which include Northern Indiana Public Service Co., Kokomo Gas

and Fuel Co., Public Service Co. of Indiana, Indiana Gas Distribution Corp. and Central Indiana Gas Co. Such sales in M. C. F. to Michigan Gas Transmission Corp. amount to about 22% of Panhandle Eastern's total sales.

Company also sells Kentucky Natural Gas Corp. certain of its gas requirements.

Illinois Natural Gas Co. (wholly-owned subsidiary) sells natural gas purchased from company to certain distributing companies and industrial customers in Illinois, including Central Illinois Light Co., Illinois Iowa Power Co. and Central Illinois Public Service Co.

The more important distributing companies in Missouri obtaining natural gas from Panhandle Eastern are Missouri Power & Light Co., Citizens Gas Co. of Hannibal and Missouri Utilities Co.

[fol. 13539] Central Distributing Co. (former subsidiary) distributes gas purchased from company to about 4,200 customers in 29 communities in Kansas & Missouri.

It is estimated that about 696,000 gas customers are supplied directly and indirectly with gas from the Panhandle Eastern system, of whom about 430,000 are customers of Michigan Consolidated Gas Co.

### Property

#### Leaseholds—

Panhandle Eastern owns or controls, subject to farm mortgages existing prior to acquisition thereof, gas rights on 49,417 acres of operated and 179,549 acres of unoperated land and a 50% working interest in 22,679 acres of operated and 6,017 acres of unoperated land, in the Panhandle of Texas, southwestern Kansas and Texas County, Okla., and in addition controls through gas purchase contracts approximately 76,896 acres of land in this territory. About half of the gas supply is obtained from wells heretofore drilled on certain of these leaseholds. The remainder is purchased from other producers. As of December 31, 1940, there were 135 wells owned, (including 46 in which Panhandle Eastern had only a 50% working interest) and 121 wells controlled by gas purchase contracts. The total connected open flow of these wells was 4,423,000 M.C.F.

### Gas Reserves—

• Ralph E. Davis, Inc., Engineers, in report on Panhandle Eastern's natural gas supply, stated in part: "The combined gas supply controlled by your company in the Amarillo and Hugoton fields is, in our judgment, adequate to supply its present markets and any reasonably anticipated increase in the gas requirements of said markets for a period of more than 25 years".

### Transmission System—

Principal natural gas transmission system; which was placed in operation in 1932, is shown on the following map. Such system extends from the Amarillo gas field in Texas Panhandle and from the Hugton gas field in southwestern Kansas through Oklahoma, Kansas, Missouri and Illinois, to a point near Daira, Indiana, where connection is made with the transmission system of Michigan Gas Transmission Corp. Panhandle Eastern also operates, as a separate unit, a minor transmission system located in the general vicinity of Kansas City, Mo.

Transmission system embraces 2,374 miles of gathering, main and lateral lines (all sizes) and 12 compressor stations with gas driven compressor units having aggregate installed capacity of 80,100 hp.

In addition, meter stations, a dehydrating plant, a natural gasoline extraction plant, and other equipment and property used in the operation and maintenance of a high-pressure gas transmission system, are owned directly or by the Illinois Natural Gas Co.

Acquisition of the Michigan Gas Transmission Corp. facilities is under consideration and, if consummated, would [fol. 13540] give Panhandle Eastern ownership of a complete natural gas transmission system from the Texas and Kansas fields to Detroit, Mich.

### Contracts

Michigan Consolidated Gas Co. (formerly Detroit City Gas Co.)

Contract dated August 31, 1935, between Panhandle Eastern and Detroit City Gas Co. (now Michigan Consolidated

Gas Co.) provides for sale of natural gas for resale in Detroit, Michigan, for a term of 15 years from January 1, 1937, and thereafter until canceled by either party on 18 months' notice.

The maximum amount of gas which Panhandle Eastern is obligated to deliver in any one day, as provided in amendment dated June 29, 1940 is 125,000,000 cu. ft. Under terms of amendment dated September 29, 1939, which provided, among other things, that the minimum obligation of Michigan Consolidated Gas Co. to take and pay for gas was to increase proportionately with any increase in company's maximum obligation to deliver gas, Michigan company is presently obligated to take and pay for 190,125,000 therms of gas per year. (One therm represents an amount of gas having a heating value of 100,000 British thermal units). Deliveries under this contract were begun July 9, 1936.

In the event that an adequate supply of natural gas sufficient to meet requirements of Michigan Consolidated Gas Co. is developed by parties other than Panhandle Eastern and made available at lower rates, company must meet such lower rates within six months after notice from Michigan Consolidated Gas Co. Contract may be terminated for breach of this, or certain other provisions.

The following (relating to rates payable under this contract) is taken from the report of Stone & Webster Engineering Corp. (contained in Registration Statement covering Detroit City Gas Co. bonds), dated Jan. 30, 1937.

Panhandle Eastern undertakes to furnish and Michigan Consolidated Gas Co. agrees to purchase gas to be used for residential, commercial and industrial customers at a price of 38¢ per month per therm of maximum daily demand, as defined in contract, plus 1.5¢ per therm as a commodity charge for gas delivered.

Michigan Consolidated Gas Co. will sell gas to its customers on the basis of "Detroit Gas Units" or "DGPU" equivalent in heating value to 1,000 cu. ft. of gas of 530 B. t. u. Converting the therms to DGPU it appears that Michigan Consolidated Gas Co. will pay for natural gas with a heating value of 1,014 B. t. u. \$24.17 per year per DGPU of maximum demand, as defined in contract, plus a commodity

charge of 7.95¢ per DGU. Under this form of rate, the cost of gas varies with the load factor. Gas purchased at an 80% load factor would cost Michigan Consolidated Gas Co. 16.20¢ per DGU, while gas purchased at a 20% load factor would cost 41.0¢ per DGU. This illustrates the importance to Michigan Consolidated Gas Co. of maintaining control over the maximum demands on Panhandle Eastern and obtaining as favorable a load factor as possible.

[fol. 13541] The cost of natural gas purchased for distribution to house heating customers depends upon a formula set forth in the contract, taking into account the difference between the monthly averages of prevailing temperatures and 65 degrees F., and an assumed consumption per customer per degree of temperature difference. We estimate that the Michigan Consolidated Gas Co. will pay between 21¢ and 22¢ per DGU for house heating gas.

#### Michigan Gas Transmission Corp.

Panhandle Eastern has a number of contracts with Michigan Gas Transmission Corp. The most important of these cover the terms, conditions and provisions under which the latter company receives, transmits and delivers gas to Michigan Consolidated Gas Co. Another contract covers the terms under which the Transmission Company receives, transmits and delivers gas to certain special industrial customers in Indiana. Another contract covers the terms under which the Transmission Company receives, transmits and delivers gas to Public Service Co. of Indiana, Northern Indiana Public Service Co. and Kokomo Gas and Fuel Co.

#### Kentucky Natural Gas Corp.

In July, 1938, Panhandle Eastern entered into a fifteen-year contract with Kentucky Natural Gas Corp. providing for a minimum firm delivery of 2,500,000 cu. ft. of gas daily during the first year and increasing thereafter to a firm daily delivery of 10,000,000 cu. ft. in the sixth year and thereafter. In addition to firm deliveries agreement also provides for sale of additional gas on an interruptible basis. Initial delivery under this contract was made September 1, 1938.

Phillips Petroleum Co.

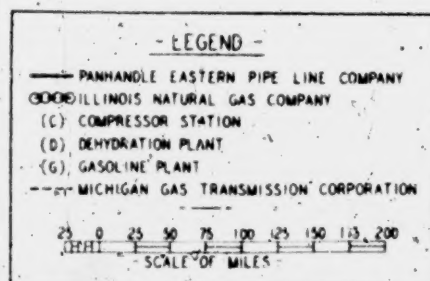
Panhandle Eastern has a contract with Phillips Petroleum Company under which it agrees to sell and deliver and Phillips Petroleum Co. agrees to purchase and receive all merchantable natural gasoline that may be produced, manufactured and saved by company at its natural gasoline plant located near Liberal, Kansas. Contract became effective October 1, 1940 and continues for an indefinite period thereafter unless cancelled by either party upon 12 months' notice.

Acquisition of Contract by Assignment

During 1939, Panhandle Eastern acquired by assignment from Michigan Gas Transmission Corp. its contract with Michigan Consolidated Gas Co. covering the sale and delivery of gas to that company for resale in the City of Ann Arbor, Michigan.

- CHART NO. 1 -

# MAIN TRANSMISSION SYSTEM OF PANHANDLE EASTERN PIPE LINE CO. & SUBSIDIARY



COMPANY AS OF SEPTEMBER 30, 1940 OWNED OR CONTROLLED OIL AND GAS LEASEHOLDS ON APPROXIMATELY 288,000 ACRES IN THE AMARILLO AND HUOCHS GAS FIELDS LOCATED IN THE PANHANDLE OF TEXAS, SOUTHWESTERN KANSAS AND TEXAS COUNTY, OKLAHOMA, AND IN ADDITION CONTROLLED THROUGH GAS PURCHASE CONTRACTS THE GAS PRODUCTION FROM APPROXIMATELY 64,000 ACRES IN THIS TERRITORY. IT IS ESTIMATED THAT THE GAS SUPPLY CONTROLLED BY THE COMPANY IN THE AMARILLO AND HUOCHS FIELDS IS ADEQUATE TO SUPPLY THE PRESENT MARKETS AND ANY REASONABLY ANTICIPATED INCREASE IN GAS REQUIREMENTS OF SAID MARKETS FOR A PERIOD OF MORE THAN 25 YEARS.

COMPANY IS PRODUCING GAS FROM 87 GAS WELLS IN THE HUOCHS FIELD IN WHICH IT CONTROLS NOT LESS THAN 1.6 TRILLION CUBIC FEET OF RECOVERABLE GAS.

COMPANY IS PRODUCING GAS FROM 88 GAS WELLS IN THE AMARILLO FIELD IN WHICH IT CONTROLS APPROXIMATELY 750 BILLION CUBIC FEET OF RECOVERABLE GAS.

DOTTED LINE --- IS MAIN TRANSMISSION SYSTEM OF MICHIGAN GAS TRANSMISSION COMPANY, A NON-AFFILIATED COMPANY, THE CONNECTING LINE BETWEEN THE SYSTEM OF THE PANHANDLE EASTERN PIPE LINE COMPANY AND DETROIT, MICHIGAN.

CONSTRUCTION OF MAIN TRANSMISSION SYSTEM WAS BEGUN IN 1930 AND PRACTICAL OPERATION WAS STARTED IN 1938. CAPACITY WAS INCREASED IN 1938, 1939 AND 1940 BY THE CONSTRUCTION OF ADDITIONAL PIPE LINES AND COMPRESSOR STATIONS AND THE ENLARGING OF EXISTING COMPRESSOR STATIONS.

ESTIMATED SALES CAPACITY AT A MAXIMUM OF 500 POUNDS COMPRESSOR STATION DISCHARGE PRESSURE IS 280,000 MCF PER 24 HOURS.

SOURCE - MAP FROM 1940 ANNUAL REPORT, OTHER DATA FROM S. E. C. REGISTRATION STATEMENT NO. 2-4579 FILED NOVEMBER 18, 1940

[Vol. 13543] Approach To Determination of Fair Return  
and My Point of View

On September 3, 1941, the Panhandle Eastern Pipe Line Company retained Standard & Poor's Corporation, through me, to make a study from which I could determine the investors' appraisal of the risks of capital in various divisions of the public utility field and the relative appraisal of risks of natural gas pipe line companies. A summary of such analyses is presented in Volume I, entitled, "Summary of Analyses," which is supported by Volume II, containing statistical data, both of which volumes are presented as supplements to this study.

Having completed the above analyses, which are purely factual, I was asked to explore further statistical data which was directly related to Panhandle Eastern Pipe Line Company and which would be helpful to the Federal Power Commission in determining a fair return of compensation for that company.

Some time before receiving this assignment, I had undertaken a study for the Pennsylvania Power & Light Company, the results of which indicated that the management of that company would need a certain irreducible minimum of compensation return to discharge properly its public duties and maintain its credit position. Admittedly, this approach was somewhat different from those heretofore used, but I felt I was following precisely the factors underlying such determination of a fair rate of return by the Pennsylvania Supreme Court in the Solar Electric Case, 137 Pa. Sup. Court Rep. 325, wherein it was stated:

"The courts have held that the return should be reasonably sufficient to assure confidence in the financial soundness of the utility, and should be adequate, under efficient and economical management, to pay all expenses of operation, provide for depreciation, payment of interest and reasonable dividends, and for a reasonable amount to be applied to a surplus account, thus insuring the maintenance of credit and enable it to raise money necessary for proper discharge of its public duties: Bluefield Water Works & Improve. Co. vs. P. S. C., 262 U. S. 679, 692; United Rwy. & Elec. Co. vs. West, supra."

The above study was presented before the Public Utility Commission of Pennsylvania in the latter part of September, 1941, and from my experience in testifying before the Commission I was led to believe that the data I had assembled gave the Commissioner additional facts upon which to determine a fair return for that company. I was retained by the Panhandle Eastern Pipe Line Company to make a similar study for it.

The problem of "Rate of Return" has always been one of the most important, as well as one of the most subtle and complex issues with which the Commissions and courts have had to cope. Over a period of years many cases have been tried and many rulings have been made upon the subject. In most decisions, however, in spite of its importance, it appeared to me that the subject of "rate of return" has been subordinated to such other rate making elements as "valuation," "going concern value," and "depreciation." As a part of my preparation of this study, I reviewed generally the more important Commission rulings and court decisions, not as an attorney might read them, nor with the idea of ascertaining the final particular decision as to rate, but rather with the idea of discovering what such bodies believed to be the underlying factors which should be considered in any rate of return study. Over the years, a rather considerable body of discussion has been built up on this general subject, and it is possible to discover from the decisions a number of basic factors which courts and Commissions have at various times asserted that they had "considered" in arriving at the rates of return finally allowed or adopted.

Upon a review of such factors, I concur in the opinion that the proper rate of return (percentage) or the rate of compensation is a flexible concept and not a static rule. Moreover, that what is termed proper necessitates the exercise of "enlightened judgment." Current conditions carry greater weight but general conditions affecting all business should be considered. Also, the rate should be sufficient to assure confidence in the financial soundness of the utility, to maintain its credit and to attract the required capital. The propriety of the allowed return depends largely upon the circumstances, the locality, and the risks of the utility enterprise. Furthermore, the return should be equal

to that generally being made at the same time and in the same general region on investments of other enterprises that have corresponding risks. The historical cost of money to the utility and the current cost of money must be considered, as well as the utility's capital structure, financial history and past operations. The return should accomplish, among other things, due recognition of efficiency or lack of efficiency in management. In addition, the future prospects of the utility, its taxes and development, the potential stimulation of reduced rates and the character of service, should be considered.

From my experience, I have gained the impression that although these factors have been considered in one form or another in the various rate of return cases which have come before the Commissions and the courts, experts preparing evidence on the subject have generally fallen into two classes, namely, those who made extensive studies to establish the figures from which a proper rate base could be established, and those who prepared evidence from which a fair rate of return could be established. However, as I have considered the various Commission and court decisions I have felt that one further type of analysis might contribute much to a study of rate of return; that is, [an analysis to determine the irreducible minimum of dollar income or gross revenue needed by the management of a particular utility company to discharge properly its service obligation to the public and at the same time maintain its credit position. This study is in essence an examination of economically required return, as such, rather than of a "rate" of return to be applied to some selected "rate base."]

In the following analysis I have attempted to provide such information for the Panhandle Eastern Pipe Line Company.

In last analysis, as I understand the problem, the issue really comes down to such determination for when a fair rate base and a reasonable rate of return are multiplied together the resulting figure is presumed to be the revenue [fol. 13545] sufficient to enable the management to carry out the function mentioned above. If this is an accurate statement of the situation, and I believe that it is, it oc

urred to me that one might well start a study of the problem of return by determining what the money income requirements were in the first place. Such final figure could then be used as a check against the application of a fair rate of return to a fair rate base to see whether in last analysis those two figures did provide the utility with the money income that was necessary to render efficient service to the public and at the same time maintain its credit position.

So far as I know, the decisions rendered in the Bluefield Water Works and Improvement Co. vs. Public Service Commission of West Virginia, 262 U. S. 679, and United Railways vs. West, 280 U. S. 234, still represent the law so far as rate of return is concerned. The general rule, as stated in the Bluefield case, was as follows:

"What annual rate will constitute just compensation depends upon circumstances and must be determined by the exercise of a fair and enlightened judgment, having regard to all relevant facts. A public utility is entitled to such rates as will permit it to earn a return on the value of the property which it employs for the convenience of the public equal to that generally being made at the same time and and in the same general part of the country on investments in other business undertakings which are attended by corresponding risk and uncertainties; but it has no constitutional right to profits such as are realized or anticipated in highly profitable enterprises or speculative ventures. The return should be reasonably sufficient to assure confidence in the financial soundness of the utility and should be adequate, under efficient and economical management, to maintain and support its credit and enable it to raise the money necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time and become too high or too low by changes affecting opportunities for investment, the money market and business conditions generally."

Following the factors mentioned above, and particularly those underlying a study of rate of return as outlined in the Bluefield Water Works and Improvement Company vs. Public Service Commission of West Virginia, I gave attention to such topics as type of service rendered; the territory served, the efficiency of management, current conditions of the particular business and general business, the financial

structure, the circumstances, locality and risks of the particular utility company, historical and current costs of money, future prospects of the utility, its taxes and development. Charts showing data on these topics are presented in the following pages, in about the order mentioned. All the factual data presented on the various exhibits were obtained from the annual reports of the Panhandle Eastern Pipe Line Company, and the companies with which data on it were compared. Gas industry data has been taken from the records of the Bureau of Mines, Standard Corporation Records, Commercial & Financial Chronicle and other sources, all of which are available to the public and are recognized as reasonably reliable sources of information for the data taken therefrom.

My study, following the approach outlined above, leads to the conclusion that the Panhandle Eastern Pipe Line Company must have as an irreducible minimum annual gross revenue of \$15,459,545 assuming that the present preferred stock is refinanced, or \$15,520,855 assuming no change in the present capital structure, such sums to be available to meet operating expenses, taxes, current capital [fol. 13546] requirements and provide a reserve to restore invested capital after the gas reserves of the company are exhausted.

In my analysis, I did not attempt to determine a rate base or the specific rate of return, but rather attempted, as already explained, to determine that amount of earnings (return) which would be considered the irreducible minimum required by the management to maintain the efficiency of its operations, its credit position and discharge its public obligations. This required the determination of the amount of return needed rather than the return which the company might be entitled to earn. There is no conflict between these two points of view—a public utility appears “entitled” to earn only the return that it “needs” to maintain its credit position. The determination of the rate base was properly left to the Commission.

Admittedly, or at least so far as I am apprised, this approach is somewhat different from any heretofore used, yet, as I have already stated, I believe it follows the factors underlying a study of rate of return as outlined in the

various Commission and court opinions and it avoids certain difficulties that have arisen in prior studies where, so far as I understand it, the rate base and the rate of return were each treated as separate entities, when as a matter of fact, the two are interrelated when one comes face to face with the issue of what earnings a particular utility is to be allowed.

With this preliminary explanation of the approach I have followed in this particular study, I present a series of charts in the following pages which graphically portray my thesis and the conclusions drawn therefrom.

### [fol. 13547] Growth of Natural Gas Industry in U. S. A.

#### 1906-1940

In Chart No. 2, captioned "Growth of Natural Gas Industry in U. S. A., 1906-1940," the solid blue line represents the natural gas production in terms of billion M. C. F., and the light grey line represents domestic and commercial customers in terms of million customers, for the period mentioned.

Interpreting these lines, it can be seen that the natural gas industry for the country as a whole, in terms of production and domestic and commercial customers, enjoyed a very modest growth from 1906 to 1920. From 1921, however, there was a setback in the trend because of the post war depression; but this was soon over and from 1922 to 1930 there was a much sharper increase in production and number of domestic and commercial customers, except that the number of the latter increased considerably more rapidly from 1928 than it did in any of the years prior thereto.

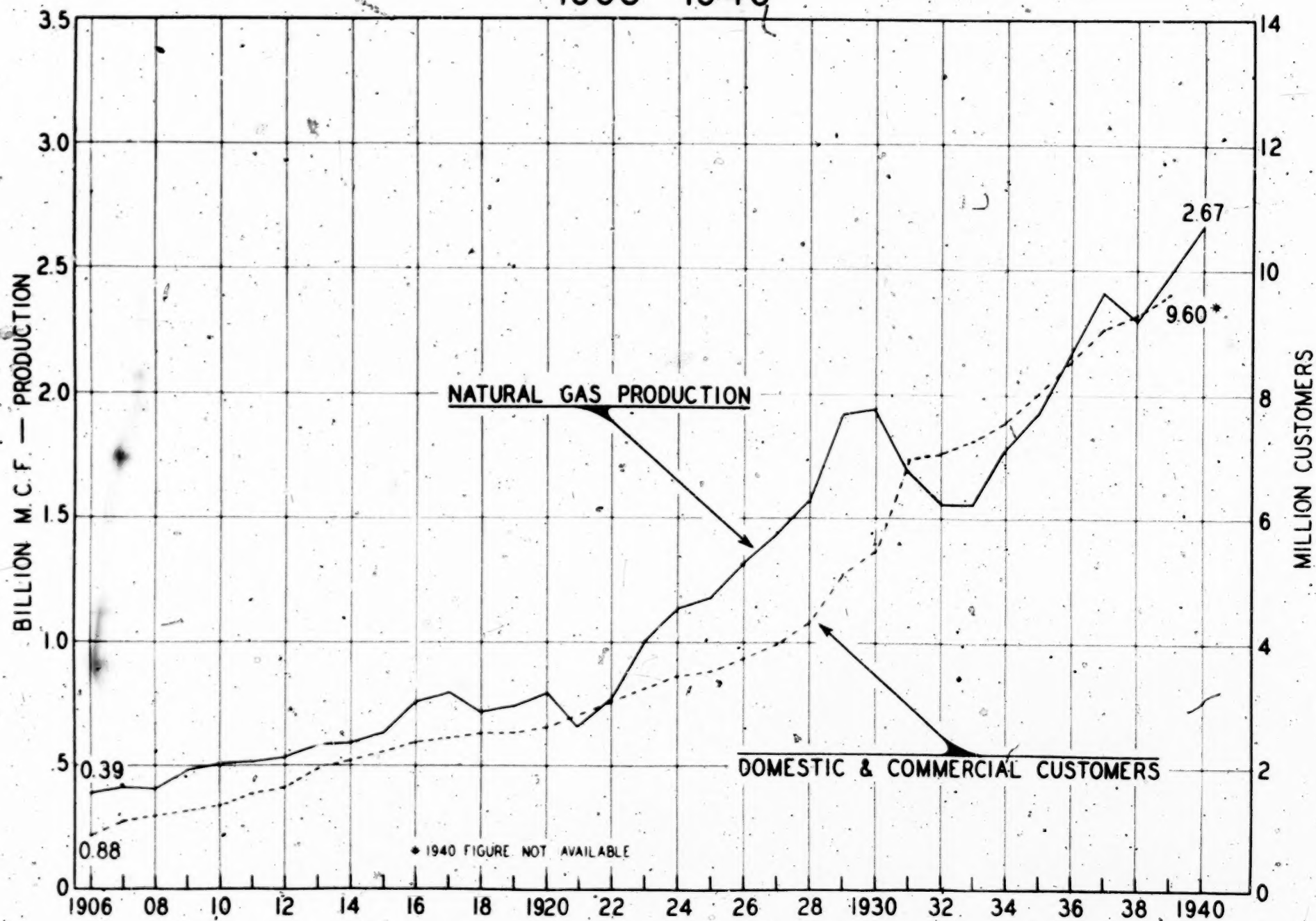
Natural gas production fell off in 1931 and 1932 and did not begin to recover again until 1933, when it showed a substantial uptrend again until 1937. The number of commercial and domestic customers continued to show an increase after 1931 through 1939, although this particular growth trend was not as sharp as that recorded in the period 1928-1930, both inclusive.

The production of natural gas fell off in 1938, but showed recovery in 1939 and then continued its sharp uptrend.

Actually, according to Moody's Public Utility Manual, 1941, Page a 42, the number of domestic and commercial customers increased from 884,018 in 1906 to 9,603,000 in 1939 (1940 figures were not available at the time this report was written) and according to U. S. Bureau of Mines—Minerals Yearbook: 1937, p. 1062; and 1941, p. 1030) natural gas production increased from 388,843,000 M. C. F. in 1906 to 2,672,000,000 in 1940.

It is evident from the accompanying chart that natural gas production is subject to cyclical fluctuations in business. This is particularly noted on the declines that were shown in production in 1921, 1931, 1932, 1933 and in 1938, and this factor must be considered in any study that is made of the natural gas industry.

- CHART NO. 2 -

GROWTH OF NATURAL GAS INDUSTRY IN U. S. A.  
1906-1940

[fol. 13549] Consumption of Natural Gas in U. S. A.1919-1940

In Chart No. 3, captioned "Consumption of Natural Gas in U. S. A., 1919-1940," the consumption according to usage is shown in the left hand box and consumption of natural gas vs. industrial production in relatives 1935-1939 equal 100 is shown in the right hand box.

As can be seen, consumption is shown as to its principal uses, namely, domestic and commercial, miscellaneous industrial, field use and carbon black. All of these divisions, if one follows the bands carefully, indicate that they are subject to fluctuations in general business. Moreover, it is clear that the greatest growth from 1919 to 1940 was in the miscellaneous industrial and field use classifications.

From 1919 to 1940 domestic and commercial increased from 255,743,000 M. C. F. to 574,000,000 M. C. F., miscellaneous industrial increased from 270,490,000 M. C. F. to 1,024,010,000 M. C. F., field use increased from 169,787,000 M. C. F. to 700,000,000, and carbon black increased from 49,896,000 M. C. F. to 369,000,000 M. C. F. The grand total therefore increased from 745,916,000 M. C. F. to 2,667,010,000 M. C. F.

In the right hand box, the solid brown line represents the Federal Reserve Board Index of Industrial Production in relatives 1935-1939 equal 100, the [solid] green line represents the total consumption of natural gas in relatives 1935-1939 equal 100, and the solid green line represents the consumption of natural gas (excluding field use and carbon black) in relatives of 1935-1939 equal 100.

The lines shown in the right hand box indicated that the trend of consumption of natural gas was the same as the Federal Reserve Board Index of Industrial Production in the period 1919 through 1929, although the figures were on different levels. After the 1931-1932 depression, however, all three lines are very close together. The chart indicates that the Federal Reserve Board Index of Industrial Production is estimated for the present year at 155, which is substantially higher than any level reached in the history to this time and would indicate that so long as the arma-

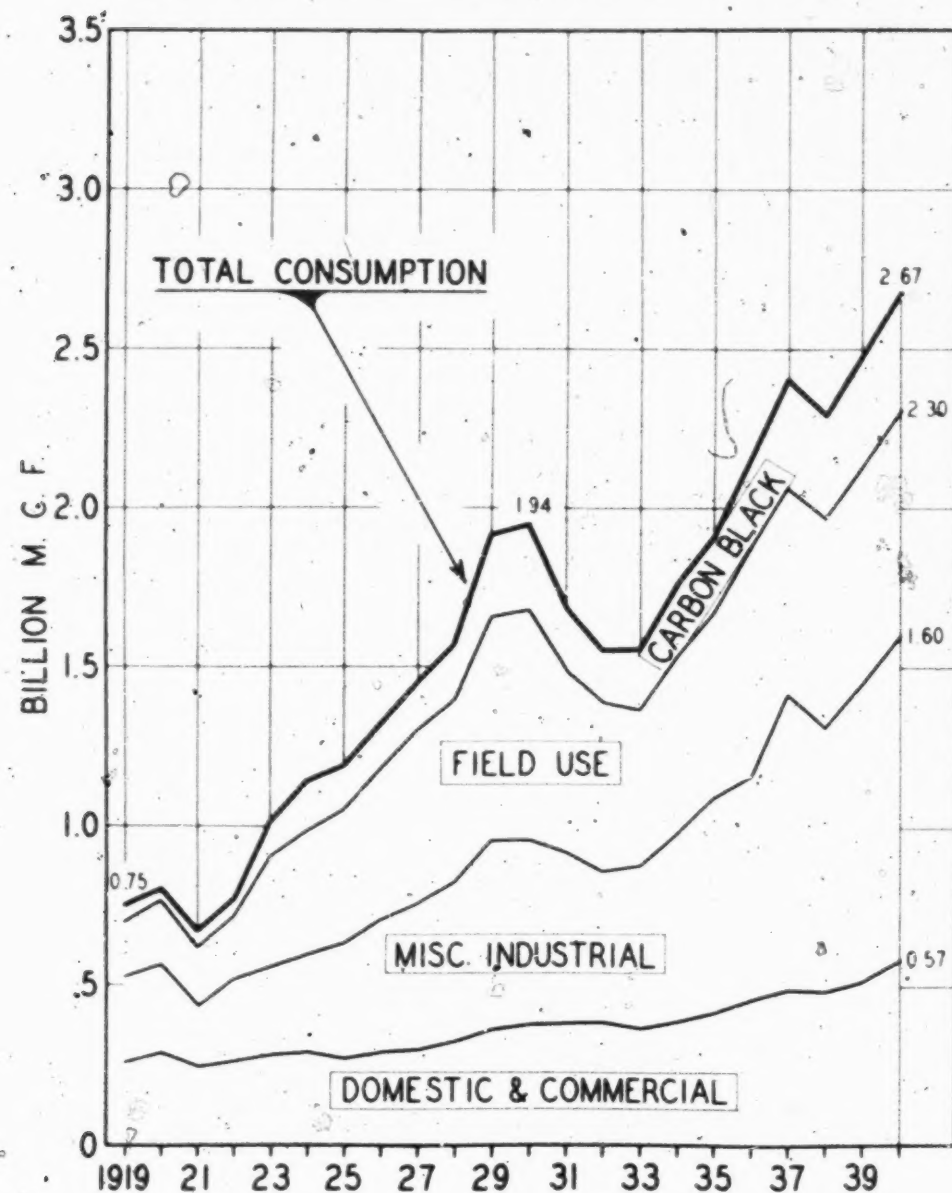
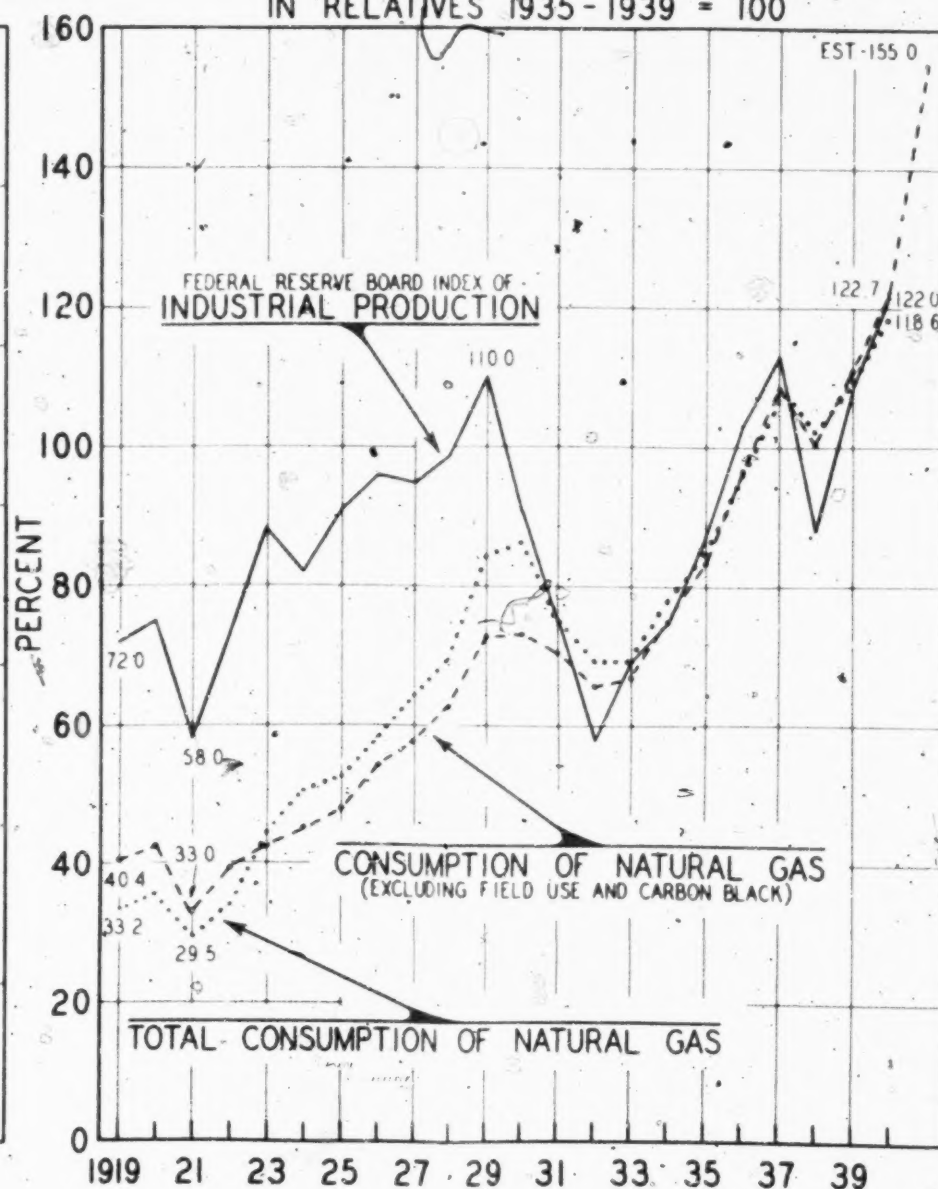
ment boom continues the natural gas consumption will continue to show a substantial uptrend following the general trend of business.

Detailed statistics on this graph are shown in the Appendix on the sheet marked "Table for Chart No. 3."

- CHART NO. 3 -

# CONSUMPTION OF NATURAL GAS IN U. S. A. 1919-1940

CONSUMPTION ACCORDING TO USEAGE


 CONSUMPTION OF NATURAL GAS  
 — vs — INDUSTRIAL PRODUCTION  
 IN RELATIVES 1935-1939 = 100


[fol. 13551] Revenue From Natural Gas Consumed in  
U. S. A. 1919-1940.

In Chart No. 4, captioned "Revenue from Natural Gas Consumed in U. S. A., 1919-1940," the total revenue according to usage at points of consumption is shown in the left hand box, and the average value per M. C. F. is shown in the right hand box. The figures in the left hand box are again broken down as to domestic and commercial, miscellaneous industrial, field use and carbon black. The figures on the latter two items, however, were not available for 1940, and no figures were available on the breakdown basis for the years 1919-1921, both inclusive.

The left hand box indicates the tremendous growth factor in the period 1921-1940, both inclusive. Domestic and commercial increased from \$110,337,000 to \$387,604,000, miscellaneous industrial from \$40,558,000, to \$155,754,000 in 1939, field use from \$21,649,000 in 1921 to \$28,610,000 in 1939 and carbon black increased from \$2,073,000 to \$3,263,000 in 1939. The total therefore increased from \$160,889,000 in 1919 to \$590,626,000 in 1940.

Dividing the M. C. F. consumption figures as shown in Chart No. 3 by the total revenue according to usage, as shown in this chart, the average value per M. C. F. as represented by the green line is determined. It will be noted that whenever industrial production and gas production declined because of fluctuations in the business cycle, the average value per M. C. F. went up. This is naturally to be expected. The result is that there was a tremendous rise in 1920 and 1921, again in 1930, 1931 and 1932, but no noticeable change took place in 1937 and 1938 although there was a recession in business in these two years.

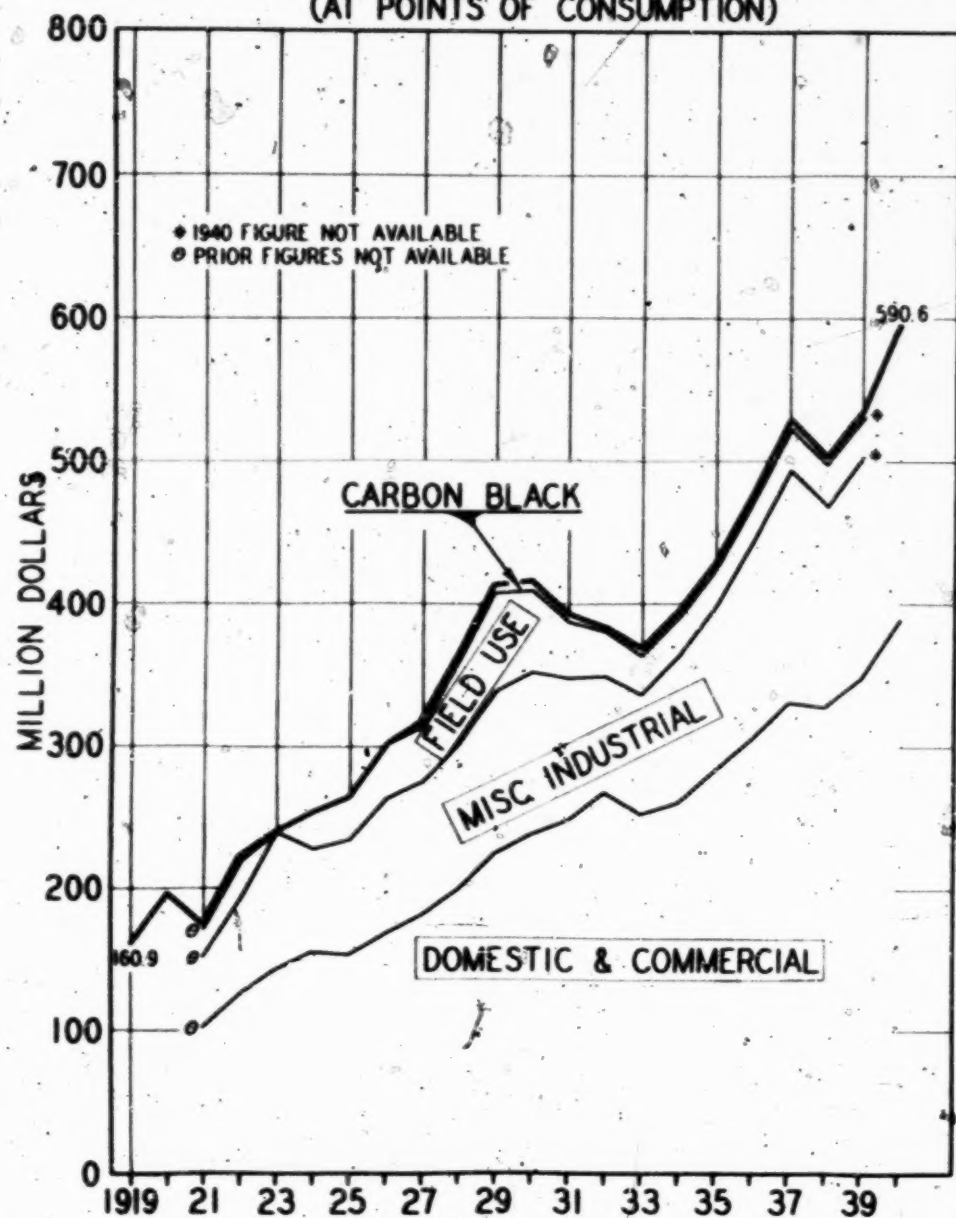
The average value per M. C. F. fluctuated in the period 1919-1939, both inclusive, from 21.6¢ per M. C. F. which compared with the low for the period of 21.4¢ per M. C. F. in 1930, and the high of 29.1¢ per M. C. F. in 1932, and 22.1¢ per M. C. F. in 1940.

Data shown in the right hand box would indicate that the supply and demand for natural gas in the U. S. A. was such as to be fairly well balanced, with the result that there were no striking variations in price except in the 1920-1921 and 1930-1932 periods, which were accounted for by depressed business conditions.

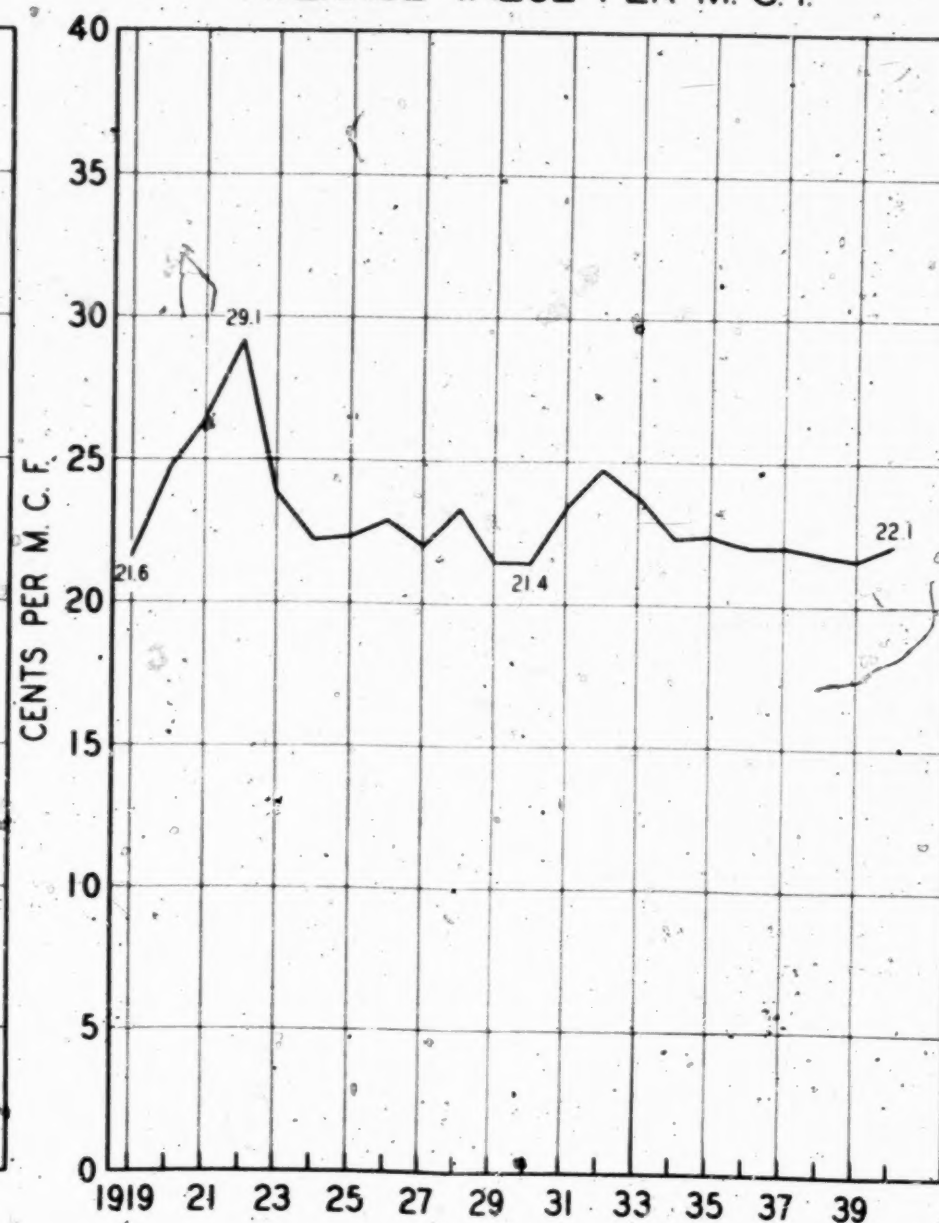
- CHART NO. 4 -

# REVENUE FROM NATURAL GAS CONSUMED IN U. S. A. 1919 - 1940

## TOTAL REVENUE ACCORDING TO USAGE (AT POINTS OF CONSUMPTION)



## AVERAGE VALUE PER M. C. F.



[fol. 13553] Average Revenue Per M. C. F. 1929-1940

In Chart No. 5, captioned, "Average Revenue Per M. C. F., 1929-1940," the average industry revenue from natural gas consumed in the U. S. A., at point of consumption is shown in the left hand box, and the average revenue of Panhandle Eastern Pipe Line Company vs. industry is shown in the right hand box.

The data in the left hand box relate again to the various types of consumption, namely, domestic, commercial, miscellaneous industrial, field use and carbon black. All such figures are presented in terms of cents per M. C. F.

From 1929 to 1939, both inclusive, miscellaneous industrial showed a decline from 19.7¢ to 16.6¢ per M. C. F., field use from 9.7¢ to 4.2¢ per M. C. F. and carbon black from 1.9¢ to 0.9¢ per M. C. F. Domestic and commercial, on the other hand, showed an increase in the period 1930-1932, both inclusive, and then only minor declines from 74.8¢ and 50.4¢ per M. C. F. respectively in 1932 to 73.0¢ and 49.2¢ per M. C. F. respectively in 1940.

In the right hand box, the figures are presented for the total industry, excluding field use and carbon black, at the point of consumption, as represented by the green line, and rose from 35.7¢ per M. C. F. in 1929 to 40.7¢ per M. C. F. in 1932, and declined to 34.7¢ per M. C. F. in 1939. Data on the Panhandle Eastern Pipe Line Company covering the average wholesale rate, as represented by the red line, showed an increase from 21.1¢ per M. C. F. in 1934 to 23.4¢ per M. C. F. in 1940. No figures on the company were available prior to 1934 and the figures on the industry were not available for 1940.

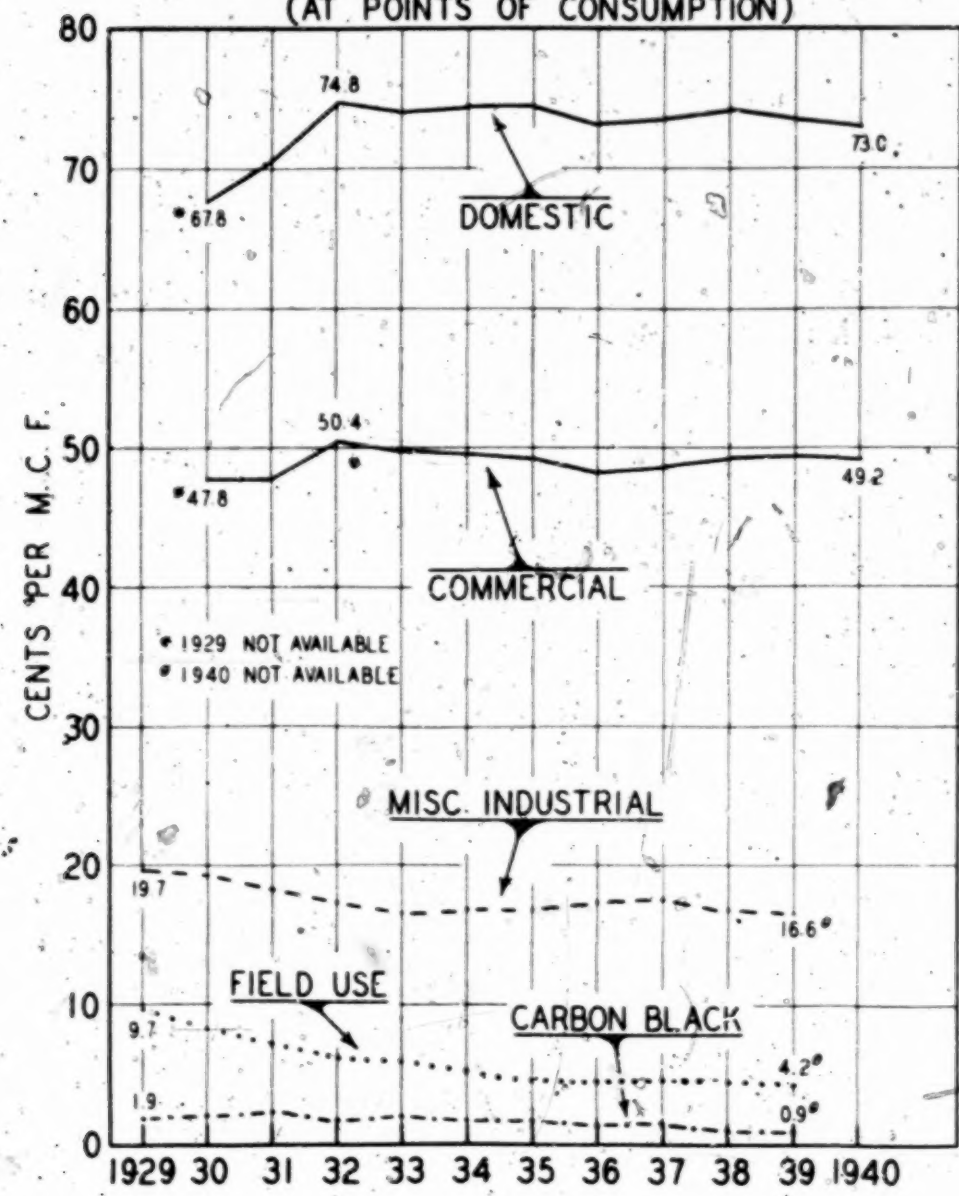
It must be remembered that, in comparing Panhandle Eastern Pipe Line Company figures with total industry figures, one is making a comparison of a wholesale price with a retail price.

The increases in the Panhandle Eastern Pipe Line Company figures from 1934 to 1940 are principally explained by the fact that the company in this period was growing rather rapidly, as domestic and commercial business, which is shown in the left hand side of the chart, carried higher rates than did the industrial classification.

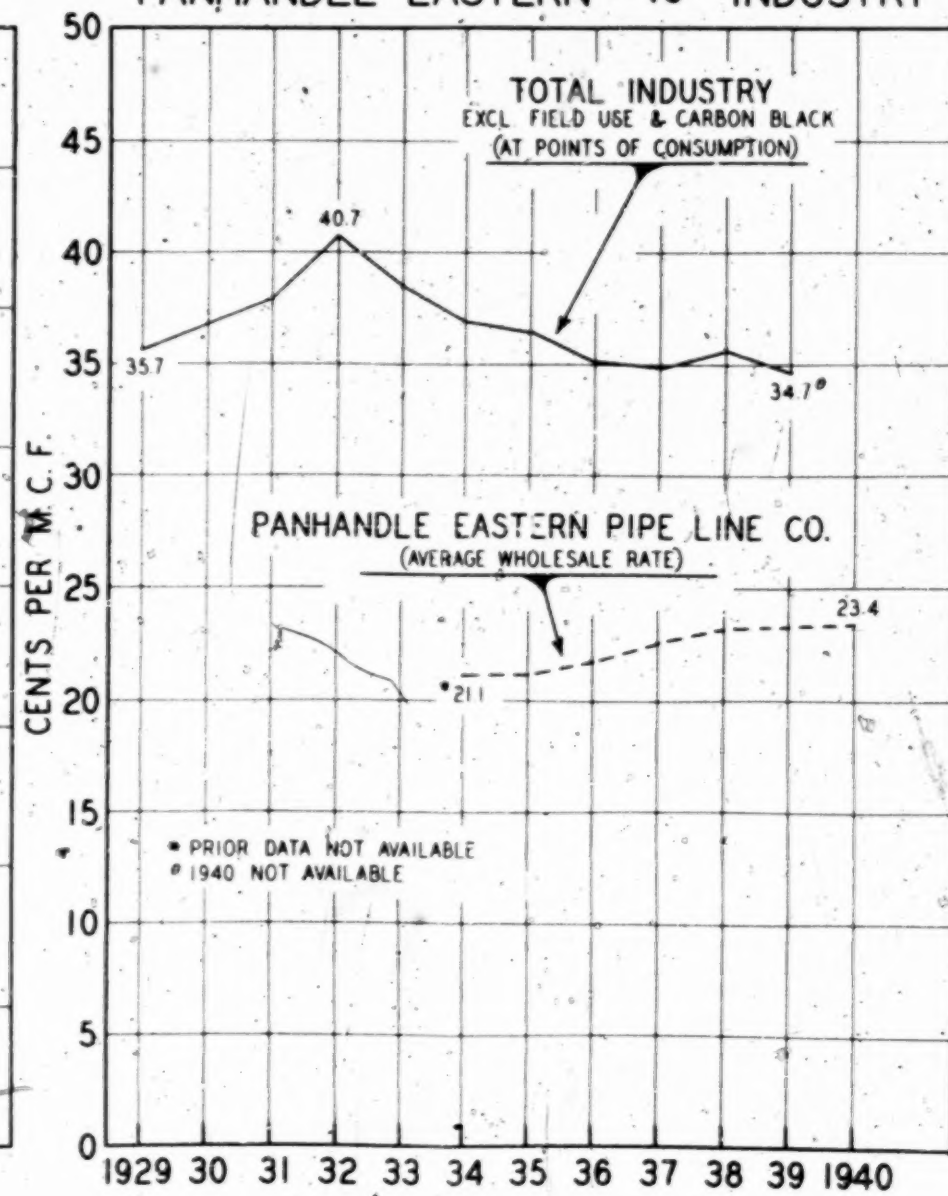
- CHART NO. 5 -

# AVERAGE REVENUE PER M. C. F. 1929-1940

AVERAGE INDUSTRY REVENUE FROM  
NATURAL GAS CONSUMED IN U.S.A.  
(AT POINTS OF CONSUMPTION)



AVERAGE REVENUE  
PANHANDLE EASTERN - vs - INDUSTRY



([fol. 13555]) Panhandle Sales By States vs. Industry Consumption of Natural Gas—1934-1940

In Chart No. 6, captioned "Panhandle Sales by States vs. Industry Consumption of Natural Gas, 1934-1940," it is clear that the company distributes gas all along its line from the Amarillo and Hugoton fields to Dana, Indiana. Although the addition of Detroit as a market for gas increased aggregate sales of Panhandle Eastern Pipe Line Company substantially by 1937, nevertheless it should be observed that the sales in Indiana and Ohio have shown a greater growth from 1937 than have the sales in Michigan.

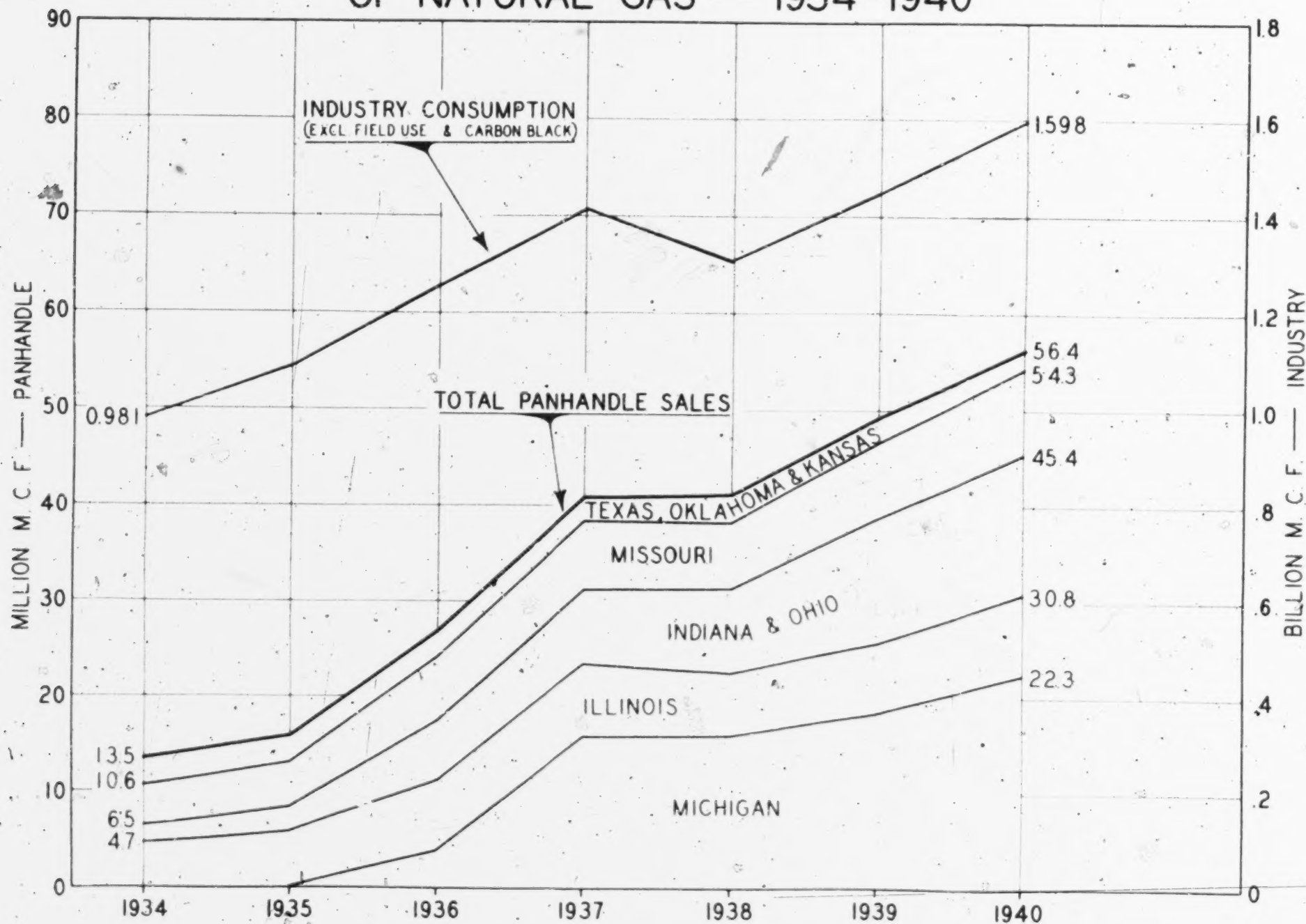
Moreover, the exhibit indicates clearly that Michigan contributed in 1940 about 41% of the total Panhandle sales and that Illinois, Indiana and Ohio contributed approximately an equal amount, and the remainder was sold in Missouri, Texas, Oklahoma and Kansas.

The chart further shows that the total sales of Panhandle Eastern Pipe Line Company increased from 13,497,649 M. C. F. in 1934 to 56,394,762 M. C. F. in 1940, and that the rate of increase for the period was greater than the industry consumption of natural gas, excluding gas used in the fields and for the manufacture of carbon black.

7

- CHART NO. 6 -

# PANHANDLE SALES BY STATES -vs- INDUSTRY CONSUMPTION OF NATURAL GAS — 1934-1940



[fol. 13557] Trends of Gross Revenue—1934-1940

Panhandle vs. Other Pipe Line Cos. & Industry.

In Chart No. 7, captioned "Trends of Gross Revenue—1934-1940—Panhandle vs. Other Pipe Line Cos. & Industry," all data compared had been reduced to relatives in terms of 1934 equals 100. This indicates that Panhandle Eastern Pipe Line Company has shown a much more rapid growth than that shown by either the total industry or by the total for other pipe line companies.

Panhandle Eastern Pipe Line Company increased 344% from 1934 to 1940, while the total industry increased 28.68% from 1934 to 1939 and the total of all other pipe line companies increased 91.30% from 1934 to 1940.

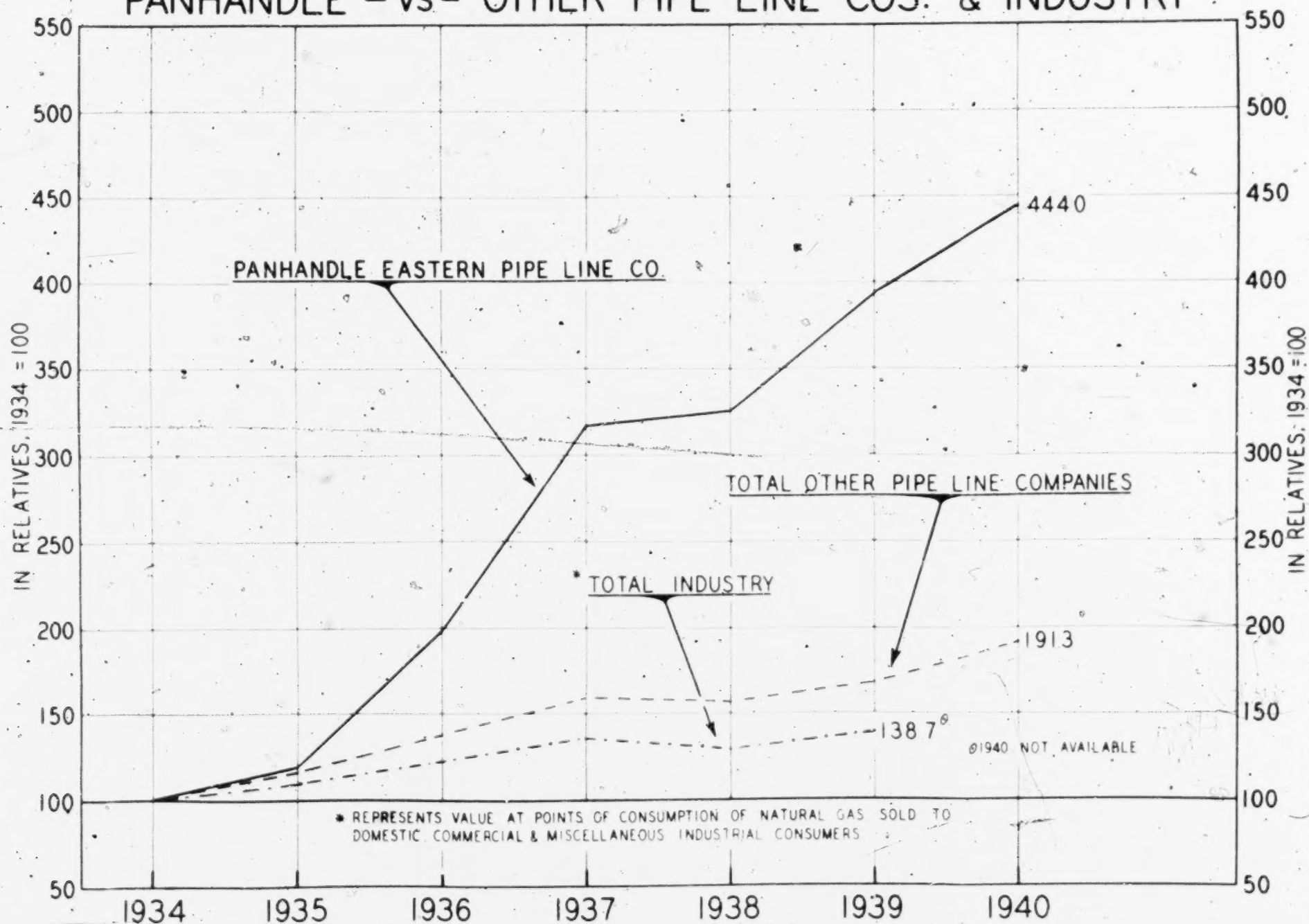
As shown in the supporting table in the Appendix at the end of this report, in the same period of time Cities Service Gas Company increased 44.32%, El Paso Natural Gas Company increased 214.34%, Interstate Natural Gas Company, Inc. increased 71.29%, Memphis Natural Gas Company increased 87.15%, Mississippi River Fuel Corporation increased 85.03%, Northern Natural Gas Company increased 100.84% and Southern Natural Gas Company increased 200.88%.

It certainly can be said from these data that Panhandle Eastern Pipe Line Company has been a useful and rapidly growing company and recent trends indicate that such growth is to continue for several years to come.

- CHART NO. 7 -

# TRENDS OF GROSS REVENUE — 1934-1940

## PANHANDLE — vs — OTHER PIPE LINE COS. & INDUSTRY



[fol. 13559] Operating Ratio Of Panhandle Compared With  
Other Pipe Line Companies—1934-1940.

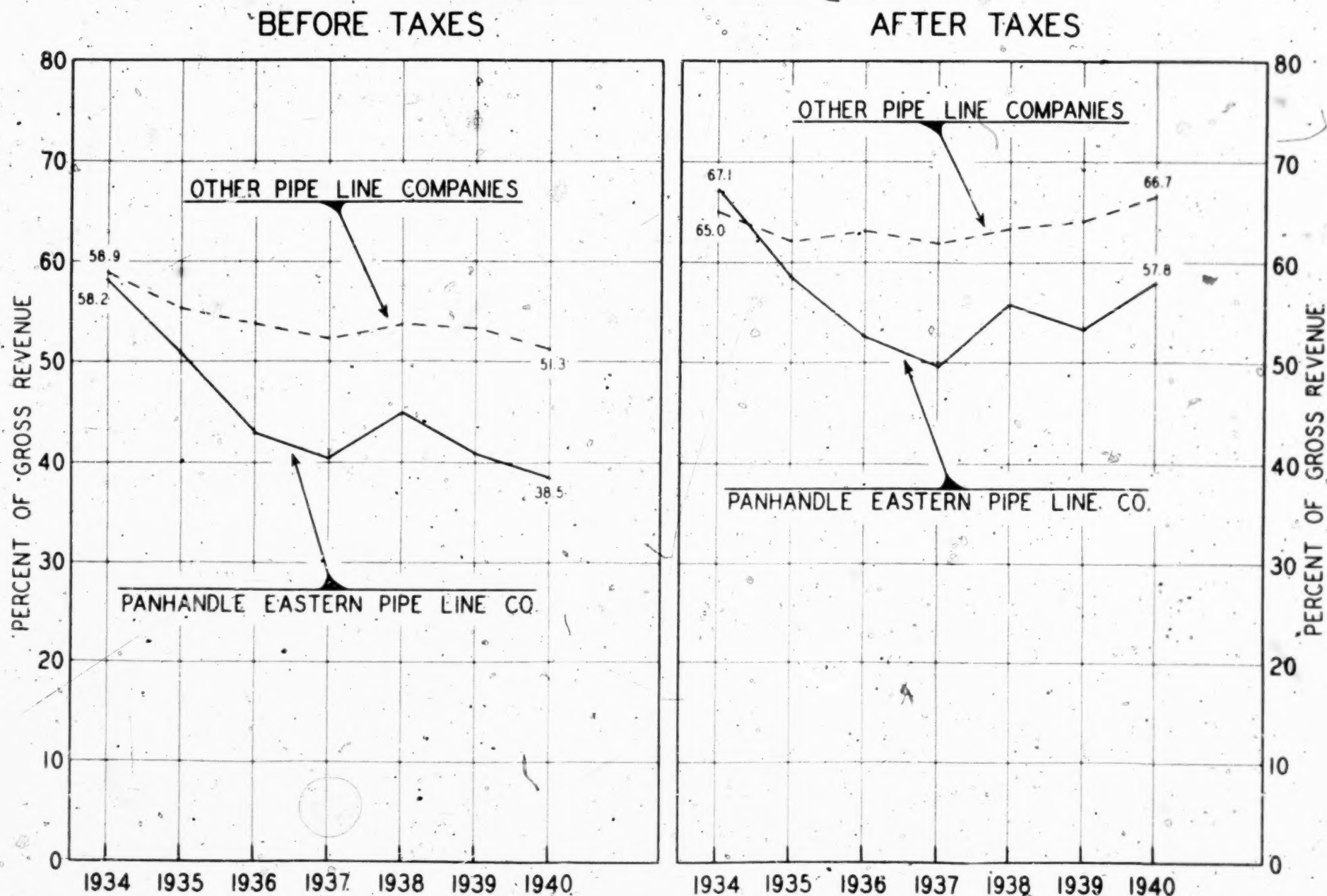
In Chart No. 8, captioned "Operating Ratio of Panhandle Compared with Other Pipe Line Companies—1934-1940," a comparison is made of the operating ratios (the percent of gross revenue consumed by operating expenses) of Panhandle Eastern Pipe Line Company with those of Other Pipe Line Companies on two bases, i. e., operating ratios before taxes as shown in the first box and the ratios after taxes appearing in the other box. The red lines in both of these divisions represent data of Panhandle while the grey lines cover data on Other Pipe Line Companies, which are the same companies discussed previously.

As will be seen in the first box, the trend of these ratios in both cases was steadily downward during the period 1934 through 1940. The decrease, however, for Panhandle, from 58.2% to 38.5% was much greater than the decrease from 58.9% to 51.3% for Other Pipe Line Companies. Thus, on the surface, Panhandle showed a much more favorable picture than the average company in the industry.

The second box on this chart definitely points out the effect the increasing tax load has had on the operating ratios. In the case of Panhandle, the operating ratio after taxes declined from 67.06% in 1934 to 49.71% in 1937 but, thereafter, the trend was reversed rising to 57.78% in 1940. It is obvious that the rising tax burden is tending to offset benefits of efficient operation. Moreover, it is known that taxes for 1941 will be considerably higher than for 1940. It is of interest to note that in 1940 the ratio after taxes for Other Pipe Line Companies was at the highest point for the seven year period studied.

- CHART NO. 8 -

# OPERATING RATIO OF PANHANDLE COMPARED WITH OTHER PIPE LINE COMPANIES — 1934-1940



[fol. 13561] Trend of Revenue and Expenses of Panhandle Eastern Pipe Line Co.—1934-1940.

In Chart No. 9, captioned "Trend of Revenue and Expenses of Panhandle Eastern Pipe Line Co.—1934-1940," is shown the trends of the principal items making up Net Operating Income—after Taxes for the years 1934 through 1940. The columns, in the various boxes, represent the actual dollar amounts for each year while the line shows the percent each item is of gross revenue.

In the first box, I have shown the trend of gross revenues over the seven year period. This trend has been definitely upward for the entire period increasing from slightly more than \$3,000,000 in 1934 to over \$13,500,000 in 1940.

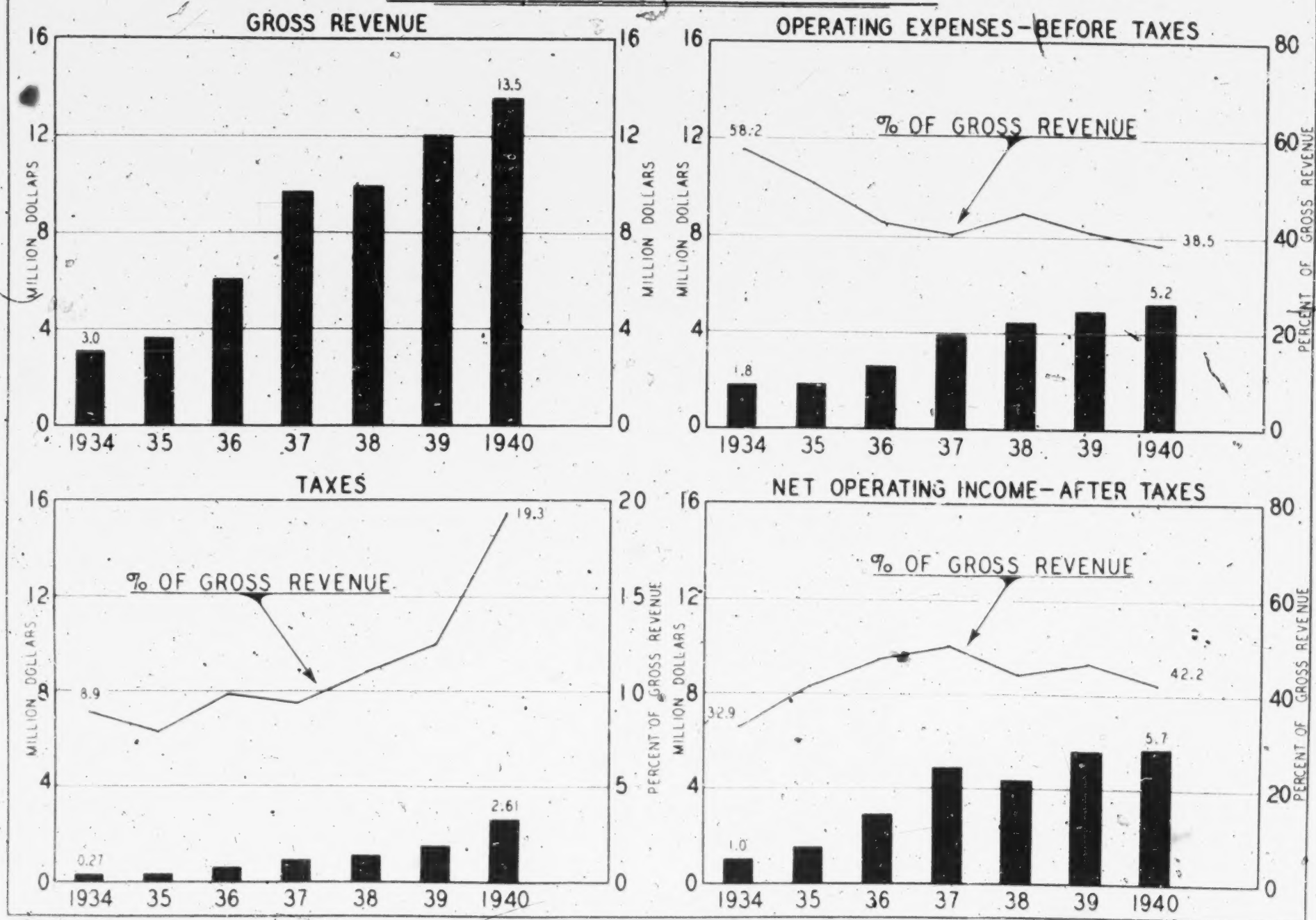
Operating Expenses—Before Taxes as portrayed in box 2, likewise have trended upward increasing from less than \$1,800,000 in 1934 to over \$5,200,000 in 1940. In relation to gross revenue, however, the trend has been sharply downward falling from 58.20% in 1934 to 38.50% in 1940. This fact clearly indicates a steady increase in operating efficiency.

In the lower left hand corner of the chart, in box 3, I have shown data on taxes. This item over the period has recorded a large increase rising from \$270,204 in 1934 to \$2,610,470 in 1940 or otherwise an increase of almost nine hundred percent. On the basis of percent of gross revenue, the increase was from 8.9% to 19.3%. As pointed out in the previous chart, this adverse trend has tended to offset the favorable trend in the operating expense ratio.

The final box presents net operating income after taxes for the period studied. While the trend of such income has been generally upward, the actual increase between 1934 and 1940 amounted to only approximately \$112,000 despite the increase of approximately \$1,539,000 in gross revenues. In other words, because of increased costs and particularly increased taxes, the company has reached the point that, despite a sharply increasing gross revenue, there is little prospect of much, if any, increase in net operating income after taxes.

- CHART NO. 9 -

# TREND OF REVENUE AND EXPENSES OF PANHANDLE EASTERN PIPE LINE CO. — 1934-1940



[fol. 13563] Percent Earned on Invested Capital of Panhandle Based Upon Capital Structure.

In Chart No. 10, captioned "Percent Earned on Invested Capital of Panhandle Based Upon Capital Structure," I have given a breakdown of invested capital on the first half of the chart and operating income expressed in dollars and also as percent earned on invested capital on the other half.

As shown by the legend on the invested capital section of the chart, the solid red portions of the bars represent common stock and surplus, the spotted sections cover preferred stock and the striped portions represent net debt. In the Operating Income section, the bars show the dollar amount of net operating income for the various years and the line reflects the ratio of the operating income to invested capital.

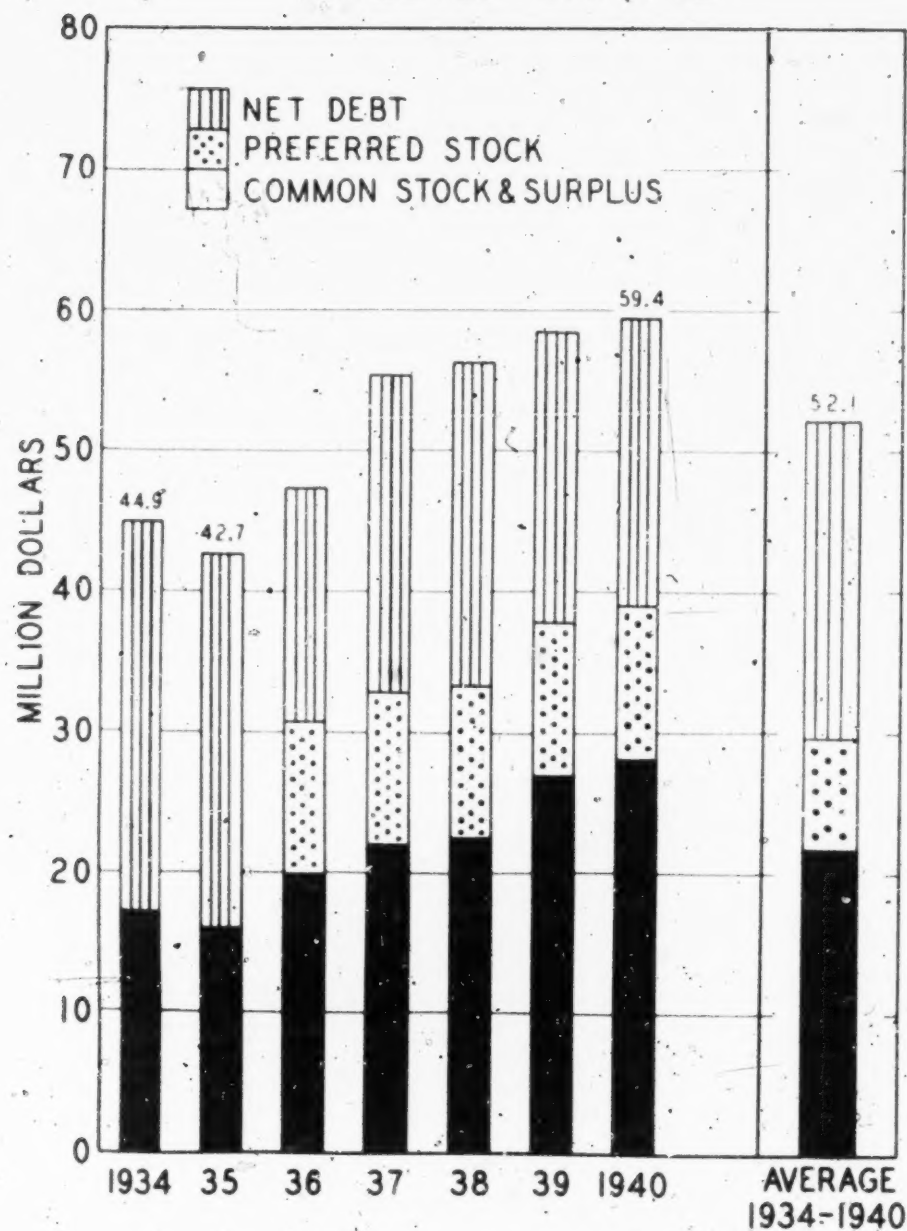
It will be seen that the total invested capital which was \$44,910,598 at the end of 1934 decreased slightly to \$42,669,166 in 1935 and thereafter increased steadily to \$59,407,968 at the end of 1940. The average for the period as shown by the bar on the extreme right of the first section amounted to \$52,057,577. In 1936, preferred stock was issued in exchange for 6% promissory notes and thereafter the capital structure of the company was composed of bonds, preferred stock and common stock.

On the second half of the chart, I have repeated the net operating income as shown on the previous chart plus a bar showing the average which amounted to \$3,701,058 for the seven year period. Based on these income figures and the invested capital as shown on the first section, I have computed the percent earned on invested capital. This ratio shown by a red line on the chart reflects an increase from 2.24% in 1934 to 9.62% in 1940 and an average of 7.11% for the period.

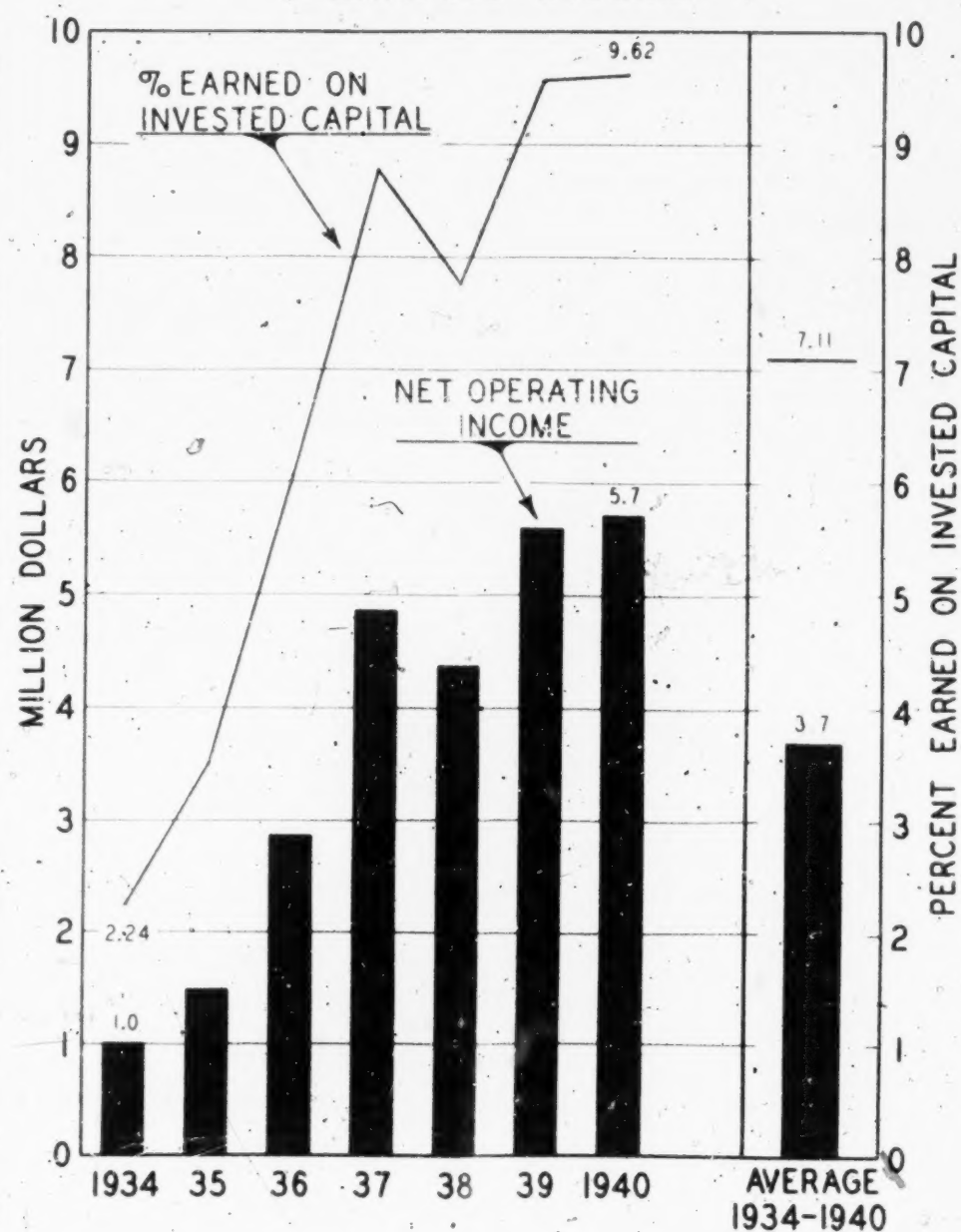
- CHART NO. 10 -

# PERCENT EARNED ON INVESTED CAPITAL OF PANHANDLE BASED UPON CAPITAL STRUCTURE

## INVESTED CAPITAL



## OPERATING INCOME



[fol. 13565] Percent Earned on Invested Capital of Panhandle Based Upon Net Property, Intangibles and Working Capital.

Chart No. 11, captioned "Percent Earned on Invested Capital of Panhandle Based upon Net Property, Intangibles and Working Capital," shows invested capital from the standpoint of assets rather than on securities outstanding. The percent return on assets is also shown.

The box on the left half of the chart, shows the net property of the company for the years 1934-1940, inclusive, as indicated by the red portion of the bars. The dotted portion represents working capital and intangibles in each of the years covered.

The total invested capital, as portrayed by such assets, amounted to \$43,625,441 in 1934. A slight decline to \$42,681,582 occurred in 1935, however, this was followed by a gradual rise to a high of \$59,921,986 in 1940. For the seven year period, as a whole, invested capital based on net property, intangibles and working capital averaged \$52,070,680.

As in the case of the previous chart, the right half of the chart shows the net operating income of the Panhandle Eastern Pipe Line Company for the years, 1934-1940, inclusive, and the percent return that such income shows on the invested capital.

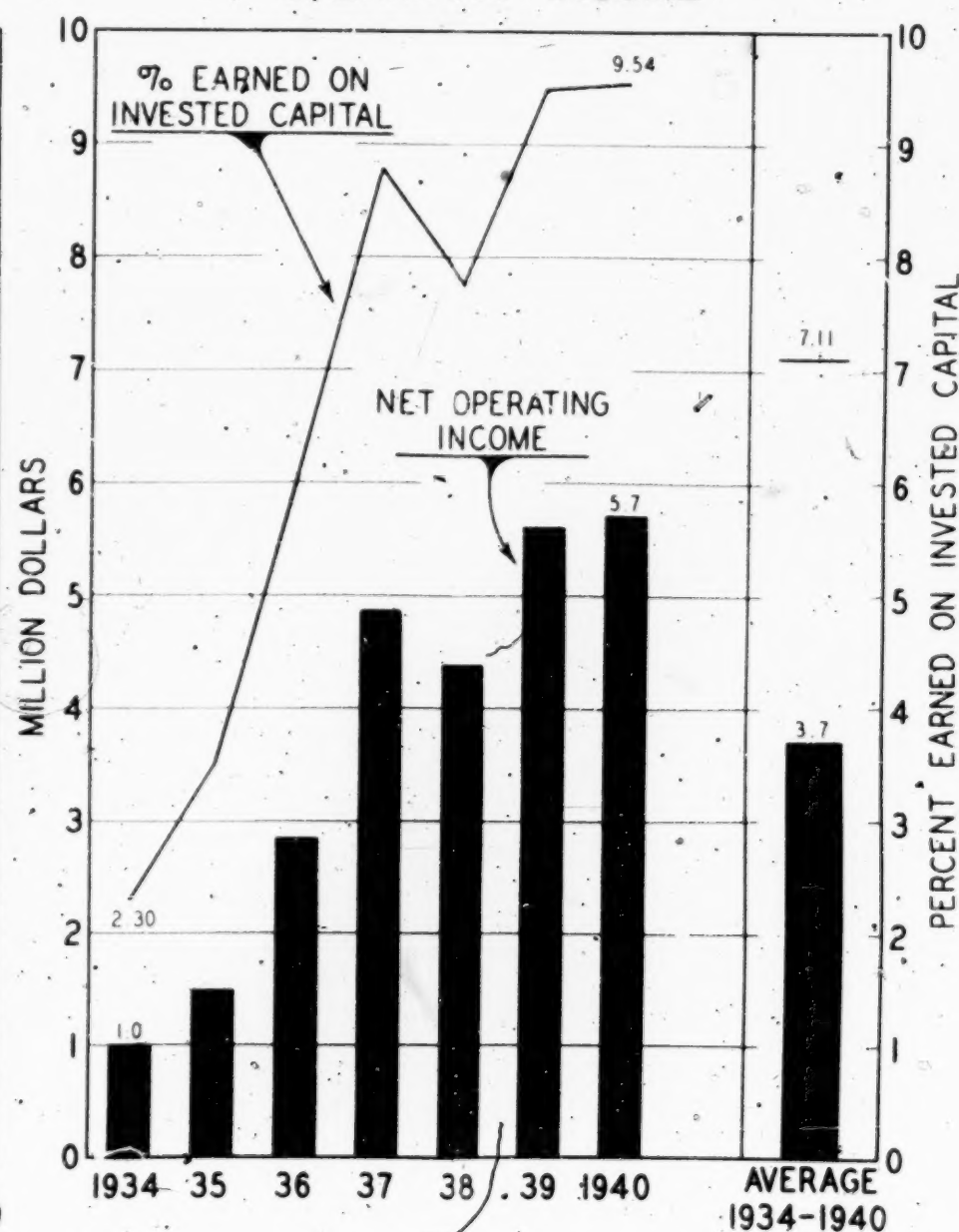
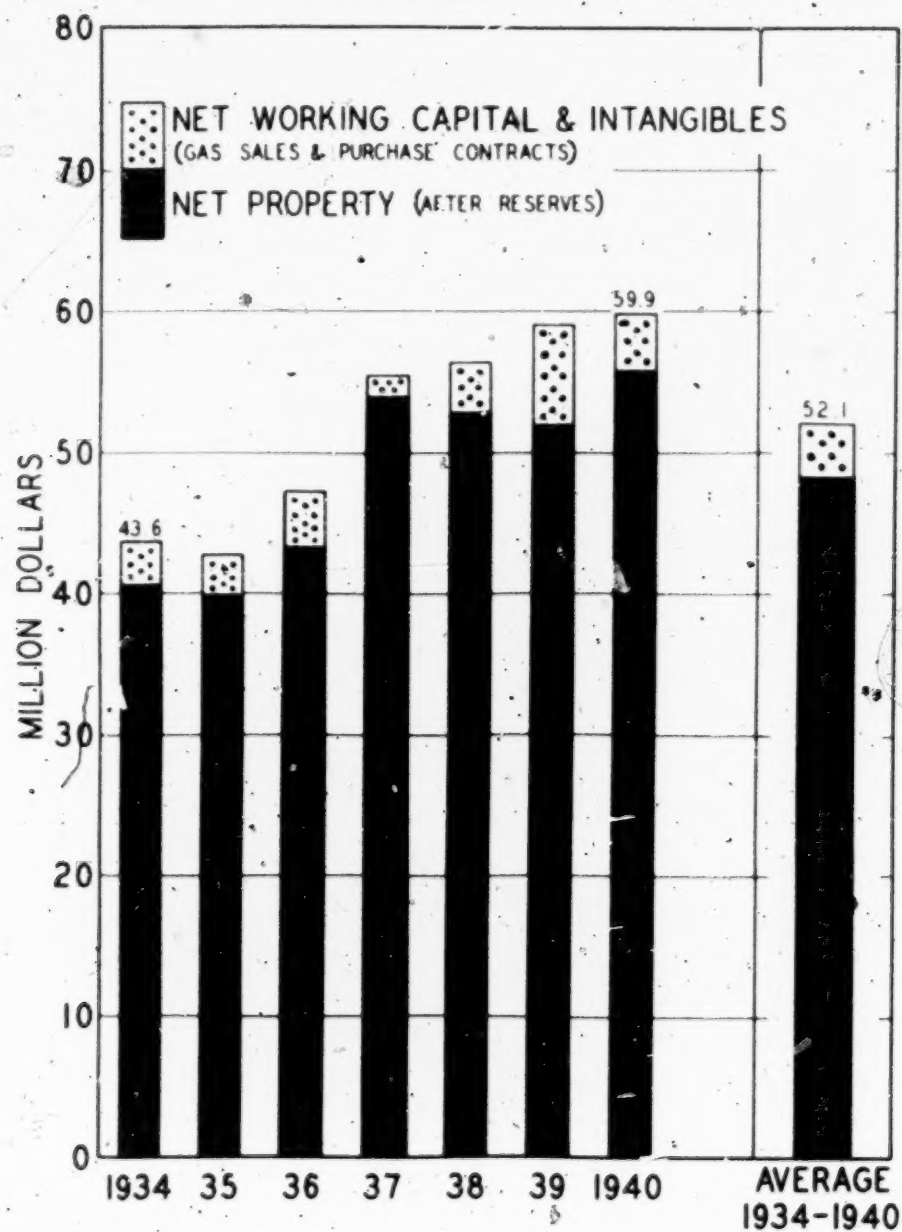
It will be seen that on the basis of net property, intangibles and working capital, net operating income showed a return ranging from 2.30% in 1934 to a high of 9.54% for 1940. Average annual net operating income for the period showed a return of 7.11% on the net property, intangibles and working capital.

- CHART NO. 11 -

# PERCENT EARNED ON INVESTED CAPITAL OF PANHANDLE BASED UPON NET PROPERTY, INTANGIBLES & WORKING CAPITAL

INVESTED CAPITAL

OPERATING INCOME



[fol. 13567] Return to Common Stockholders of Panhandle  
Eastern Pipe Line Company—1934-1940.

Chart No. 12, captioned "Return to Common Stockholders of Panhandle Eastern Pipe Line Company—1934-1940" covers the total investment represented by common stock and surplus and the return on that investment in the form of dividends paid.

As shown in box 1 of the chart, total common stock and surplus which amounted to \$17,130,094 in 1934, decreased to \$15,984,852 in 1935 and then steadily increased to \$21,107,142. Over the seven year period, this item averaged \$21,818,994 per year.

The next box, "Dividend Return to Common Stockholders," indicates the total common dividends paid each year and the average for the period. As clearly evident from this graph, the company paid no dividends until 1937 when a total of \$364,326 was paid. Subsequently larger amounts were paid, reaching the peak of \$2,422,051 in 1940. This amount, however, included a special dividend of \$1,211,051 declared early in January of that year out of 1939 earnings. If the data were adjusted to reflect that amount as a 1939 dividend payment, the peak would have been \$2,343,387 in 1939 and only \$1,211,000 for 1940. Considering the period as a whole, dividend payments averaged \$794,026 per year.

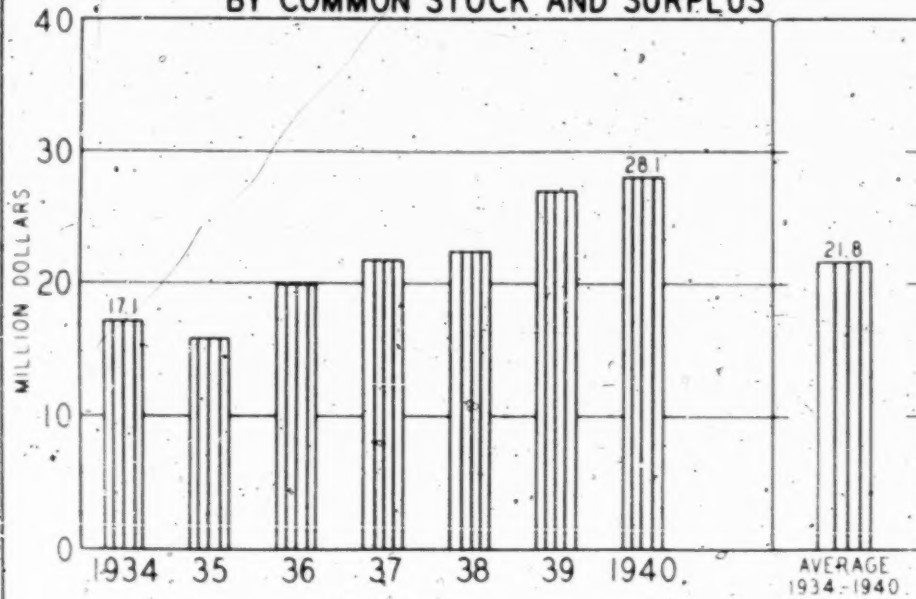
Based upon the data in the first two boxes, the percent return to common stockholders averaged 3.64% for the seven years reviewed.

This and data for the several years individually appear in the third box.

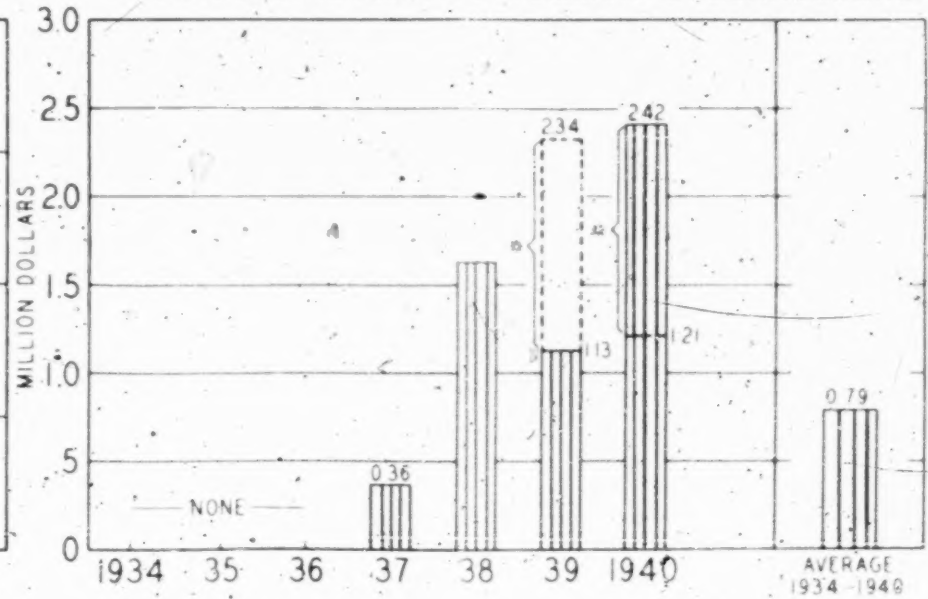
- CHART NO. 12 -

# RETURN TO COMMON STOCKHOLDERS OF PANHANDLE EASTERN PIPE LINE COMPANY - 1934-1940

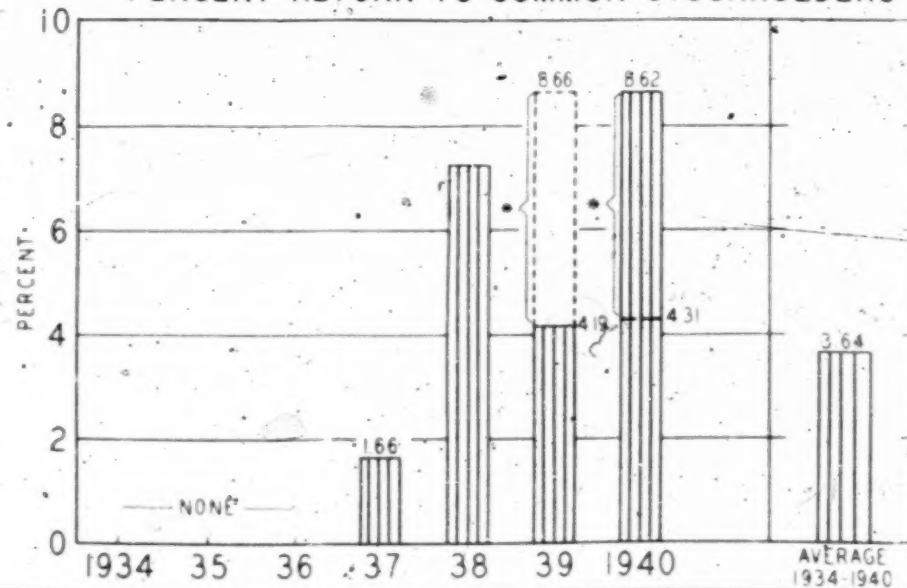
## INVESTMENT REPRESENTED BY COMMON STOCK AND SURPLUS



## DIVIDEND RETURN TO COMMON STOCKHOLDERS



## PERCENT RETURN TO COMMON STOCKHOLDERS



\* DIVIDEND PAID IN 1940  
OUT OF 1939 EARNINGS

[fol. 13569] New Tax Bill Will Reduce Income Sharply.  
Computations Based on Operations—12 Mos. Ended June  
30, 1941.

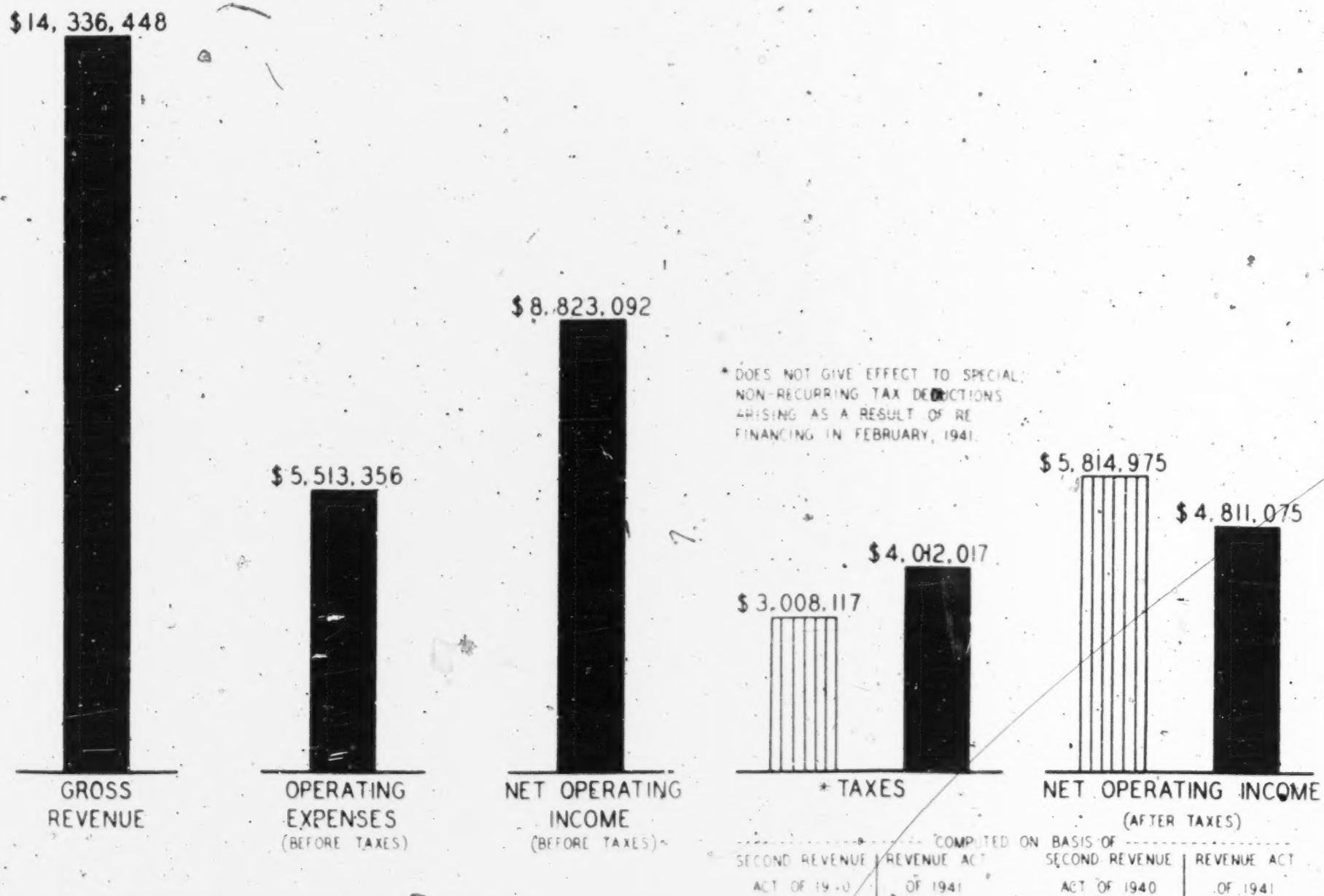
Chart No. 13, captioned "New Tax Bill will Reduce Income Sharply" shows the approximate effect of the recently-enacted tax bill, Revenue Act of 1941, on the earnings of Panhandle Eastern Pipe Line Company. The computations appearing on this exhibit are based on the operations for the twelve months ended June 30, 1941.

For this period the gross revenue amounted to \$14,336,448. Operating expenses (before taxes) \$5,513,356 and Net operating income (before taxes) \$8,823,092. Based on these data, I estimated that taxes would amount to \$4,012,017 under the provisions of the new act as compared with \$3,008,117 under the Second Revenue Act of 1940. This comparison is clearly shown by the fourth and fifth bars on the chart.

The last two bars show the net effect of this increased tax liability of \$1,003,900 on the net operating income of the company.

- CHART NO. 13 -

# NEW TAX BILL WILL REDUCE INCOME SHARPLY COMPUTATIONS BASED ON OPERATIONS - 12 MOS. ENDED JUNE 30, 1941



[fol. 13571] Percent Earned on Invested Capital of Panhandle Eastern Pipe Line Co.—As of June 30, 1941.

In Chart No. 14, captioned "Percent Earned on Invested Capital of Panhandle Eastern Pipe Line Co.—As of June 30, 1941," I show the present rate of return on invested capital (net property, net working capital and intangibles) as indicated by the earnings reported for the twelve months ended June 30, 1941.

The invested capital, as based on the net property, net working capital and intangibles, amounted to \$61,216,031 on June 30, 1941. This is shown by the bar on the left side of the chart. Of the total, net property accounted for \$54,690,594, net working capital \$4,661,875 and intangibles \$1,863,565.

The rate of return has been based not only on the earnings actually reported by the company for the twelve months ended June 30, 1941, but also on an adjusted basis, adjusting for the increased taxes under the Revenue Act of 1941. Net operating income, as shown in the center bars on the chart, amounted to \$5,814,975, before adjusting for the new tax rates. Such earnings, however, were reduced to \$4,811,975 after adjustment was made for the new 1941 levies.

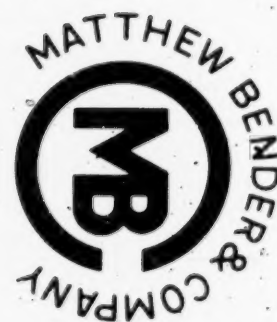
On the right side of the chart, it will be seen that the Panhandle Eastern Pipe Line Company showed a return of 9.50% on invested capital as based on net property, net working capital and intangibles and the earnings actually reported for the twelve months ended June 30, 1941. After adjusting for the increased taxes, under the Revenue Act of 1941, the rate of return was reduced to 7.86%.

# MICRO CARD 22

TRADE MARK 

44

1563

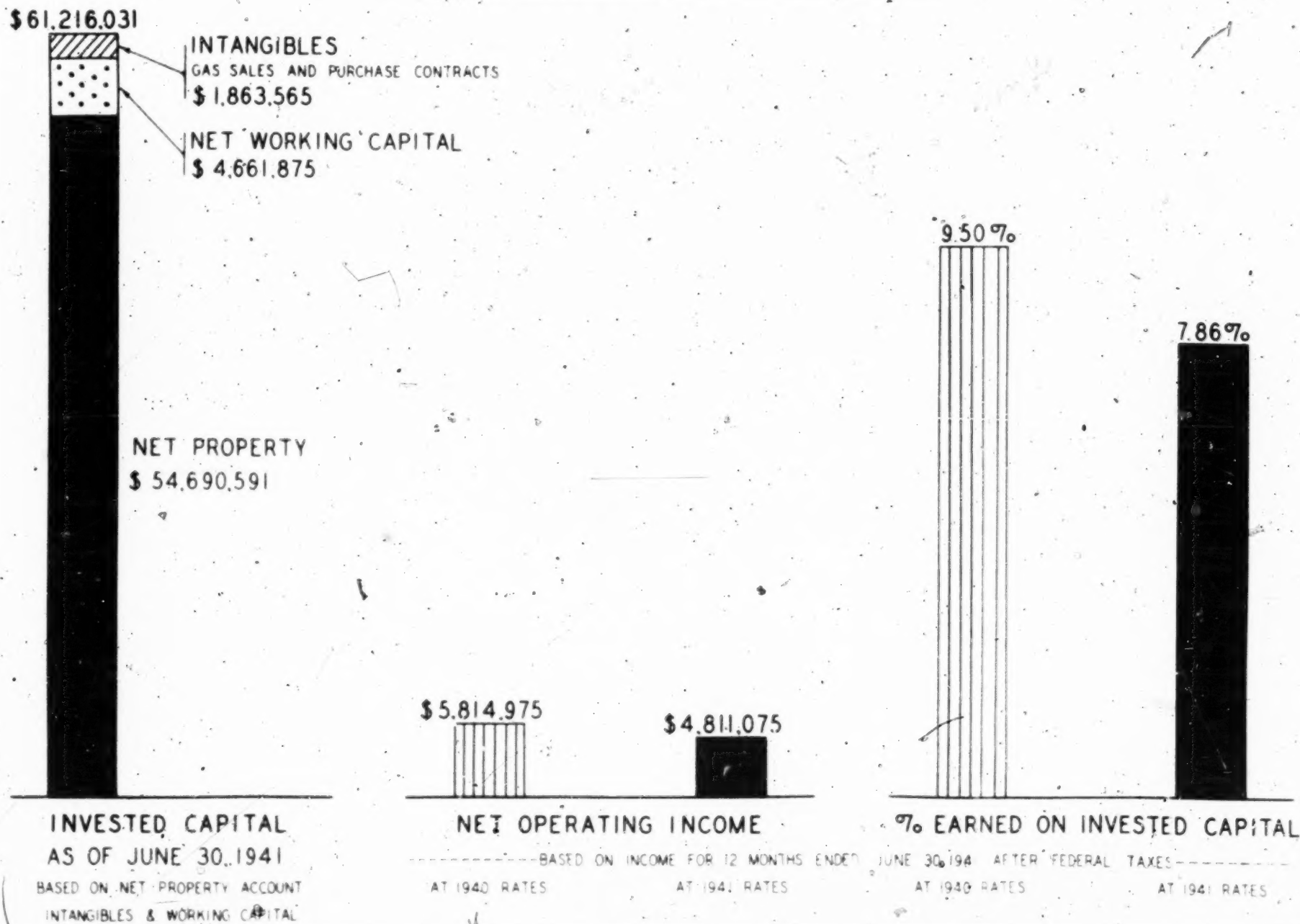


63



- CHART. NO. 14 -

# PERCENT EARNED ON INVESTED CAPITAL OF PANHANDLE EASTERN PIPE LINE CO. - AS OF JUNE 30, 1941



[fol. 13573] Percent Earned On Invested Capital Of Panhandle Eastern Pipe Line Co.—As of June 30, 1941.

Chart No. 15, captioned "Percent Earned on Invested Capital of Panhandle Eastern Pipe Line Co.—As of June 30, 1941," shows, as in the case of the previous chart, the rate of return on invested capital. In the present instance, however, invested capital is represented not by net property, net working capital and intangibles but by the capital securities outstanding.

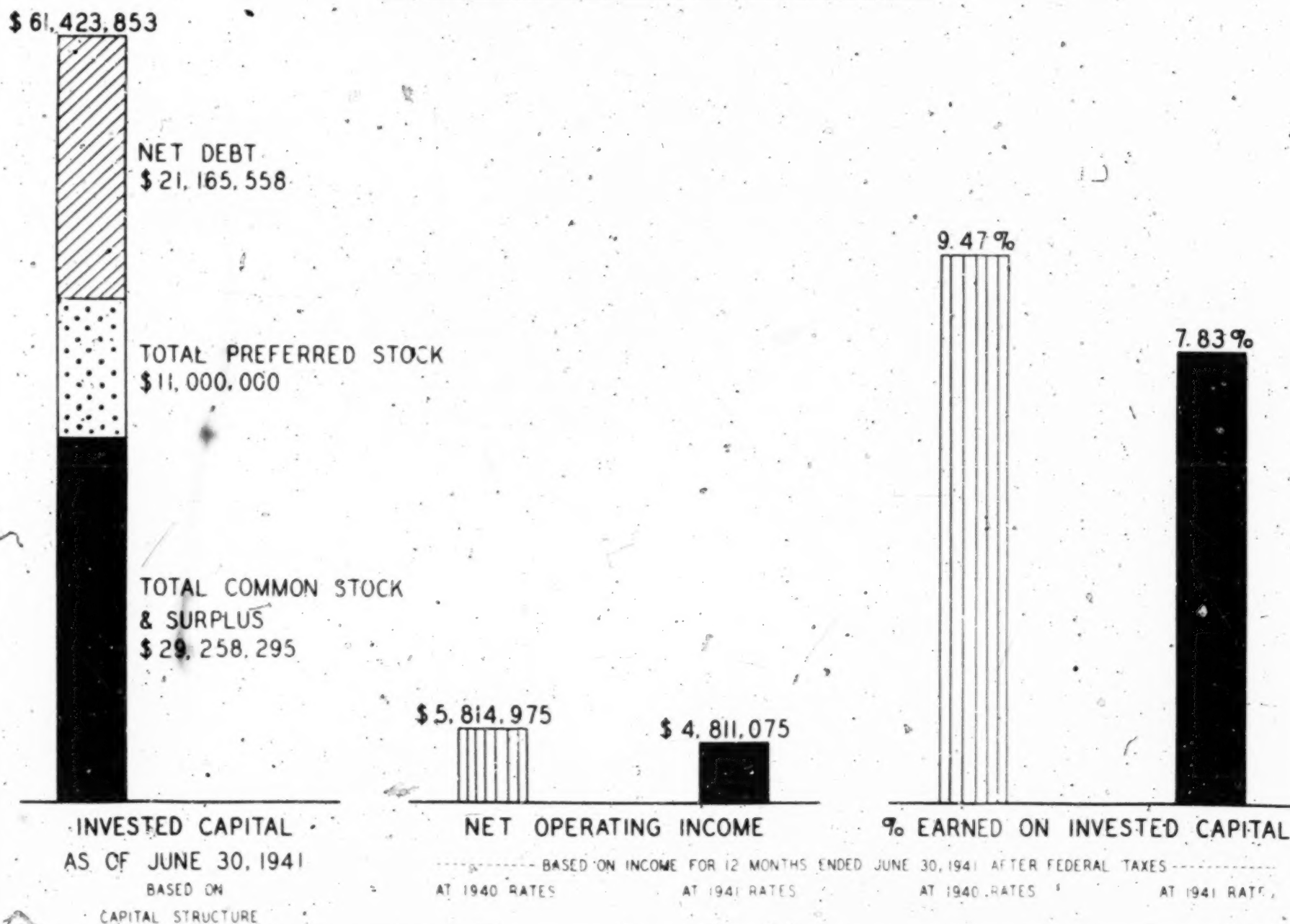
As shown by the bar on the left side of the chart, invested capital, as based on the capital securities outstanding, amounted to \$61,423,853. Of the total, net long term debt (less discount and expenses) accounted for \$21,165,558, preferred stock \$11,000,000 and common stock and surplus \$29,258,295.

Also, as in the previous case, the rate of return has been based on the earnings actually reported by the company for the twelve months ended June 30, 1941, and on an adjusted basis, giving effect to the increased taxes under the Revenue Act of 1941. Such earnings, as shown by the bars in the center of the chart, amounted to \$5,814,975 before the tax adjustment and \$4,811,075 after the tax adjustment.

It will be seen, by the bars on the right side of the chart, that the Panhandle Eastern Pipe Line Company showed a return of 9.47% on invested capital as based on the capital securities outstanding, and the earnings before adjusting for taxes. A 7.83% return was shown by the earnings after the tax judgment.

-CHART NO. 15-

# PERCENT EARNED ON INVESTED CAPITAL OF PANHANDLE EASTERN PIPE LINE CO.—AS OF JUNE 30, 1941



[fol. 13575] Historical Costs of Debt Capital of Panhandle Eastern Pipe Line Co.—1930-1941.

In Chart No. 16, captioned, "Historical Costs of Debt Capital of Panhandle Eastern Pipe Line Co.—1930-1941," the solid red bars represent the annual cost, expressed in percentage, of the company's debt capital since its inception.

The first bond issue was sold by the company in October, 1930, at a price of 90 for 6% mortgage bonds due October 1, 1950. These bonds carried a sinking fund provision designed to retire more than 50% of the outstanding amount of maturity, the sinking fund prices being at the rate of 105% of face value of the greater part of the period, and thereafter dropping by degrees to 100% of face amount. The average cost of this issue, giving weight to the sinking fund premium and the length of time the capital would be available to the company, was 7.20% annually as shown on the chart for the year 1930 and supported by Appendix Table for Chart No. 16, Page 4 of 5, at the end of this report.

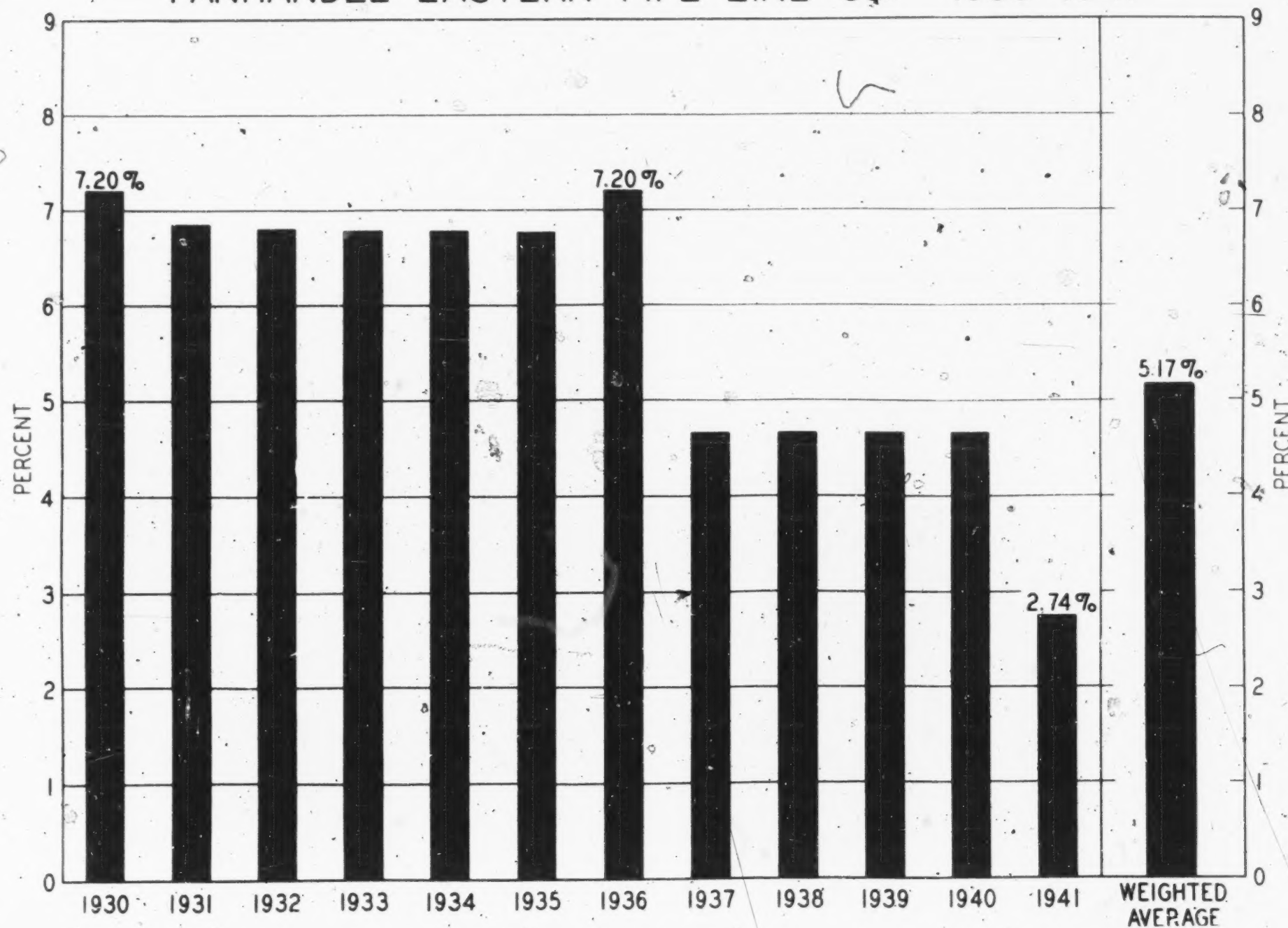
The issuance in 1931 and 1932 of 6% promissory notes due in 1950 and sold at ~~par~~ served to lower the overall cost of debt capital somewhat for the ensuing years of 1931 to 1935 while such notes were outstanding.

In 1937, the 20-year mortgage 6's of 1930 were refunded with the proceeds of the sale of 1st mortgage and 1st lien series A sinking fund 4's of 1952. The net price received by the company was 95.02% of face value and this issue carried a sinking fund designed to retire the entire outstanding amount at maturity. The average yield, again giving weight to the actual length of time the money was available to the Panhandle Eastern Pipe Line Company, was computed at 4.66%, which represented a substantial reduction in capital costs accomplished through refunding. In January, 1941, owing to exceedingly favorable money market conditions, another refunding program was accomplished which allowed retirement of the previously outstanding mortgage bonds through the proceeds of \$5,000,000 serial notes carrying interest coupons varying from 0.75%

to 4.50% and due \$1,250,000 annually from November 1, 1942 to November 1, 1945, \$6,250,000 first mortgage and first lien series A bonds carrying interest coupons varying from 1.65% to 2.30%, due \$1,250,000 annually from November 1, 1946 to November 1, 1950, and \$12,000,000 first mortgage and first lien series B, sinking fund 3's of 1960, carrying sinking fund provisions designed to retire \$1,200,000 annually, November 1, 1951 to and including November 1, 1960. The average interest cost of this financing, again giving weight to the length of time the capital would be available to the company, was 2.74%. This rate compares very favorably with the rates paid by other companies in the field and is the lowest that could reasonably be expected.

Despite this fact, however, the historical cost of debt capital to the Panhandle Eastern Pipe Line Company has averaged 5.17% from the inception of the company to and including 1941. Such average is conservatively computed by giving greatest weight to the most recent figures and least weight to the earliest costs which were established late in 1930.

- CHART NO. 16 -

HISTORICAL COSTS OF DEBT CAPITAL OF  
PANHANDLE EASTERN PIPE LINE CO. — 1930-1941

[Vol. 13577] Effect of 1941 Refinancing of Panhandle East-  
ern Pipe Line Company

On Chart No. 17, captioned "Effect of 1941 Refinancing of Panhandle Eastern Pipe Line Company," details of present funded debts are shown, together with the schedules of debt retirement, debt outstanding and the average annual interest cost of debt.

In February 1941, the company sold \$12,000,000 principal amount of First Mortgage and First Lien 3% Bonds Series B, due November 1, 1960, \$6,250,000 principal amount of First Mortgage and First Lien Bonds, Series A, due serially November 1, 1946 to November 1, 1950, inclusive and \$5,000,000 principal amount of Serial Notes due November 1, 1942 to November 1, 1945 inclusive. From the proceeds the company retired as of March 5, 1941 its First Mortgage and First Lien Bonds, Series A, 4%, due March 1, 1952, outstanding in the amount of \$22,500,000, at 102 and accrued interest.

In the upper left hand corner of the chart, I have listed the present funded outstanding, according to the amount that is due on the various maturity dates. Also, maturity yields have been computed on the different maturities on the basis of the prices received by the company. It will be seen that the maturity yields on the Serial Notes varied from a low of 0.75% on the 1942 maturity to a high of 1.50% on the 1945 maturity. On the First Mortgage and First Lien, Series A Bonds, the yield varied from a low of 1.65% on the 1942 maturity to 2.30% for the 1950 maturity. The maturity yield on the First Mortgage & First Lien, Series B Bonds varied from a high of 3.41% for the 1951 maturity to a low of 3.07% which was shown for the maturities of 1958, 1959 and 1960.

In the upper right hand corner, I have portrayed the schedule of debt retirement. For the nine year period through 1942-1950, both inclusive, debt retirement will amount to \$1,250,000 annually, representing the retirement of the Serial Notes through 1945 and the First Mortgage and First Lien Series A Bonds for the remainder of the period. Thereafter, through 1960, the annual retirement of the First Mortgage and First Lien Bonds will amount to \$1,200,000.

Thus, as shown in the schedule of outstanding debt in the lower left hand corner, a proressive downward trend will be witnessed and by 1960, the entire debt now outstanding in the amount of \$23,250,000 will be eliminated.

The general effect of the 1941 refinancing was to lower the interest rate on the company's long term debt. As shown in the lower right hand corner, the average annual interest cost of debt averages 2.74%. In addition to the lowering of interest, the refinancing extended the final maturity of debt to twenty years, and changed sinking fund provisions so as to make available added amounts of cash over the next few years.

- CHART NO. 17 -

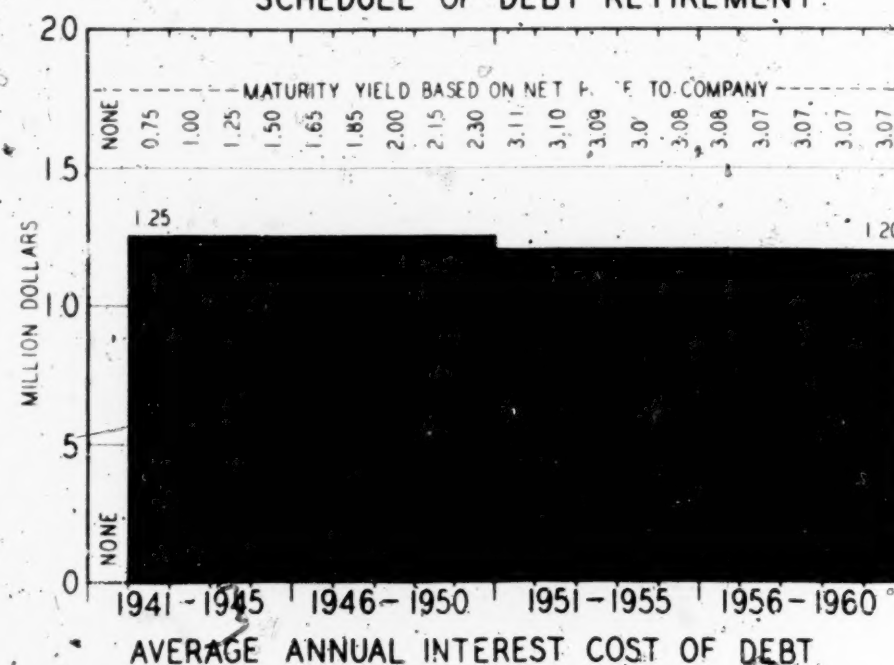
# EFFECT OF 1941 REFINANCING OF PANHANDLE EASTERN PIPE LINE CO.

## \* PRESENT FUNDED DEBT

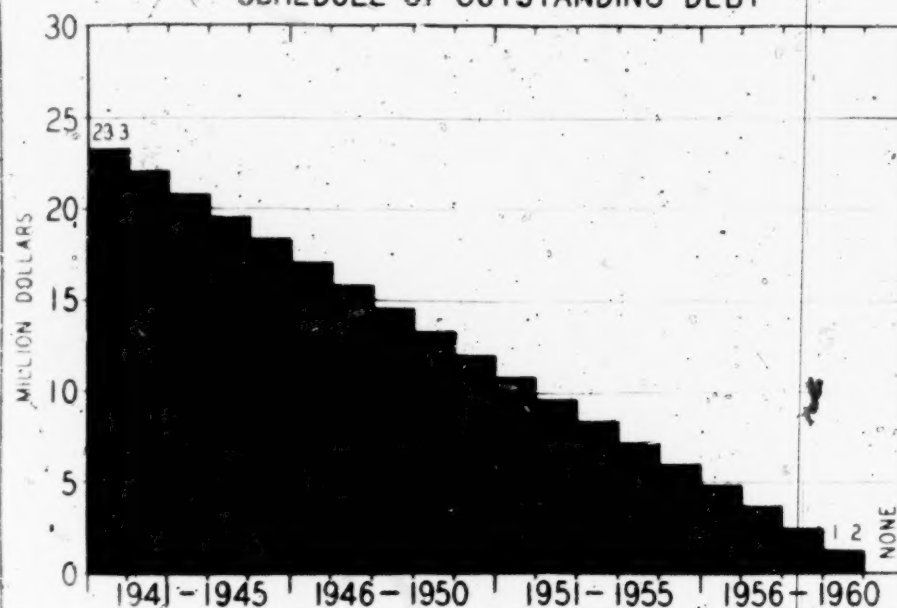
ISSUE	NET PRICE TO COMPANY	MATURITY YIELD
\$1,250,000 Serial Notes A 0.75%, due Nov. 1, 1942	100	0.75%
1,250,000 Serial Notes B 1.00%, due Nov. 1, 1943	100	1.00
1,250,000 Serial Notes C 1.25%, due Nov. 1, 1944	100	1.25
1,250,000 Serial Notes D 1.50%, due Nov. 1, 1945	100	1.50
1,250,000 1st Mtg. & 1st Lien B 1.85%, due Nov. 1, 1946	100	1.85
1,250,000 1st Mtg. & 1st Lien B 1.85%, due Nov. 1, 1947	100	1.85
1,250,000 1st Mtg. & 1st Lien B 2.00%, due Nov. 1, 1948	100	2.00
1,250,000 1st Mtg. & 1st Lien B 2.15%, due Nov. 1, 1949	100	2.15
1,250,000 1st Mtg. & 1st Lien B 2.30%, due Nov. 1, 1950	100	2.30
12,000,000 1st Mtg. & 1st Lien A 3s, due Nov. 1, 1960 with sinking fund as follows:		
1,200,000 due Nov. 1, 1951	99.02	3.11
1,200,000 due Nov. 1, 1952	99.02	3.10
1,200,000 due Nov. 1, 1953	99.02	3.09
1,200,000 due Nov. 1, 1954	99.02	3.09
1,200,000 due Nov. 1, 1955	99.02	3.08
1,200,000 due Nov. 1, 1956	99.02	3.08
1,200,000 due Nov. 1, 1957	99.02	3.07
1,200,000 due Nov. 1, 1958	99.02	3.07
1,200,000 due Nov. 1, 1959	99.02	3.07
1,200,000 due Nov. 1, 1960	99.02	3.07

Note: \* Excludes \$17,844 Leasehold Purchase Obligations

## SCHEDULE OF DEBT RETIREMENT



## SCHEDULE OF OUTSTANDING DEBT



[fol. 13579] Historical Costs of Preferred Stock Capital of  
Panhandle Eastern Pipe-Line Co.—1937-1941

In Chart No. 18, captioned "Historical Costs of Preferred Stock Capital of Panhandle Eastern Pipe-Line Co.—1937-1941," the percent costs of Panhandle's two classes of preferred stock are shown.

Class A stock participates with the common in any further distribution after the common stock has received \$1.50 per share. Both Class A and Class B are entitled to a \$6 cumulative dividend.

In 1937 the percent cost is shown at 6%. The rate increases in 1938 and 1939 to 7.66% and 9.67% respectively. This increase is due to participation dividends being paid on the Class A preferred stock. The rate shown for 1940 is again 6%.

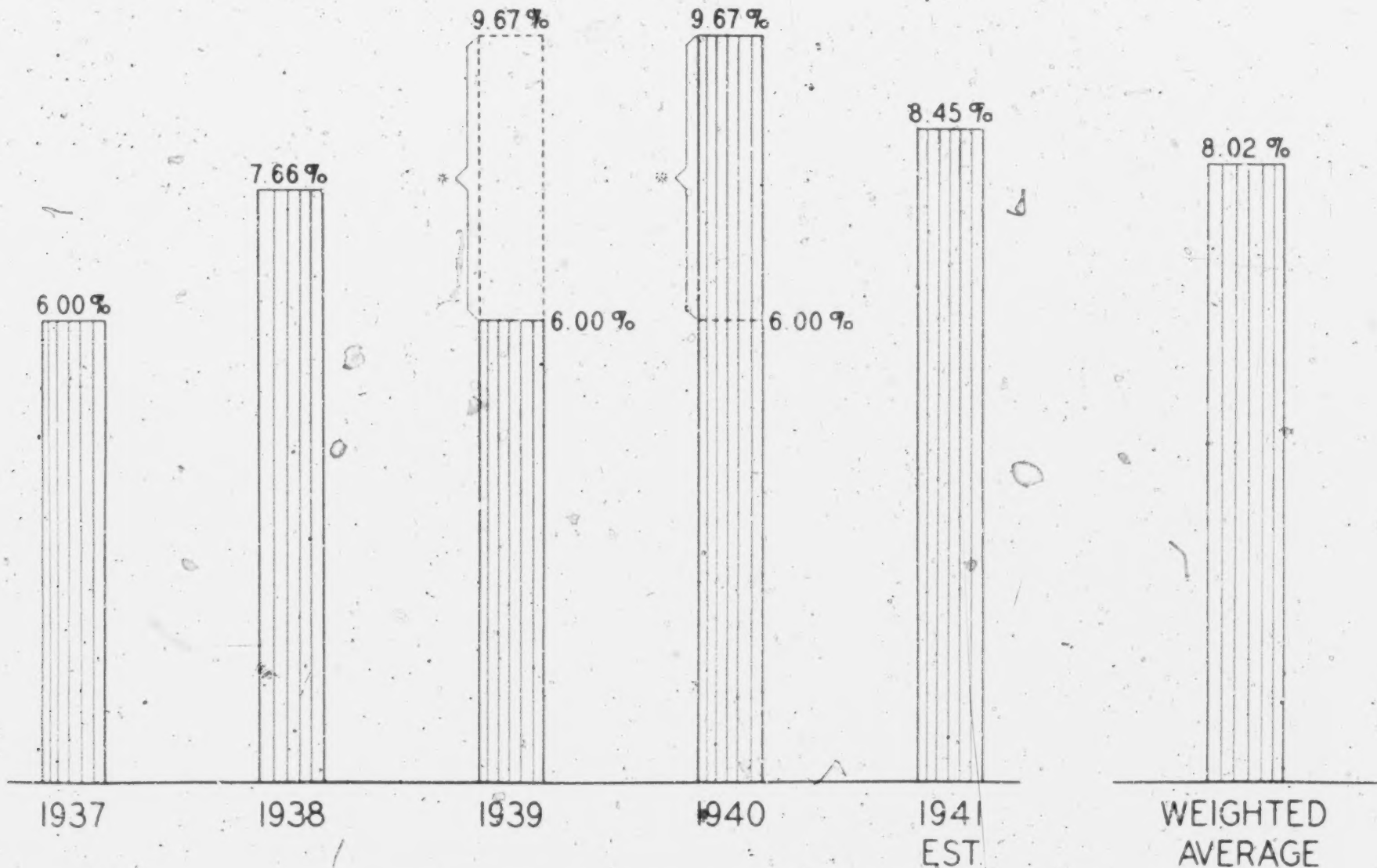
For the year 1941 we have estimated that a \$2.50 total dividend will be paid on the common stock and on this basis the costs of the preferred stocks would be 8.45%.

The weighted average for the entire period 1937 to 1941 both inclusive, giving weight to recency of figures was 8.02%.

- CHART NO. 18 -

# HISTORICAL COSTS OF PREFERRED STOCK CAPITAL OF PANHANDLE EASTERN PIPE LINE CO.—1937-1941

\* DIVIDEND PAID IN 1940  
OUT OF 1939 EARNINGS



fol. 13581] Earnings—Price Ratios of Natural Gas Pipe  
Line Common Stocks—1937-1940

In Chart No. 19, captioned "Earnings—Price Ratios of Natural Gas Pipe Line Common Stocks—1937-1940," a comparison of the earnings-price ratios of various companies are shown. In 1937 and 1938 these companies were El Paso Natural Gas Company, Interstate Natural Gas Company, Memphis Natural Gas Company. In 1939 and 1940 Southern Natural Gas Company and Panhandle Eastern Pipe Line Company have been added to this group.

The ratios of the individual companies show a wide spread in each year while the average of all the company's remains constant.

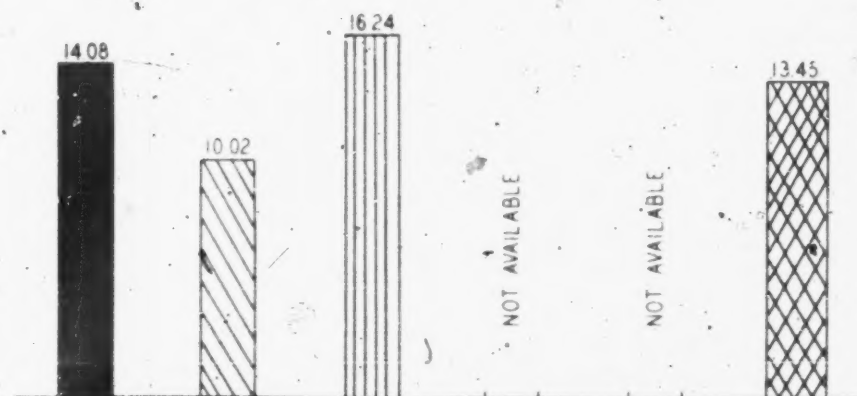
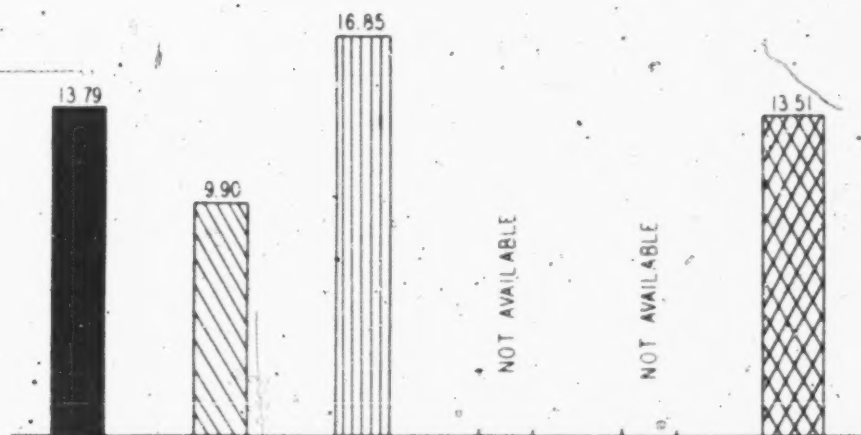
No common stock of Panhandle Eastern was held by the public prior to September, 1939. For the year 1940 Panhandle Eastern's ratio of 13.55 compares with the average of 13.82 for all the companies.

- CHART NO. 19 -

# EARNINGS - PRICE RATIOS OF NATURAL GAS PIPE LINE COMMON STOCKS - 1937-1940

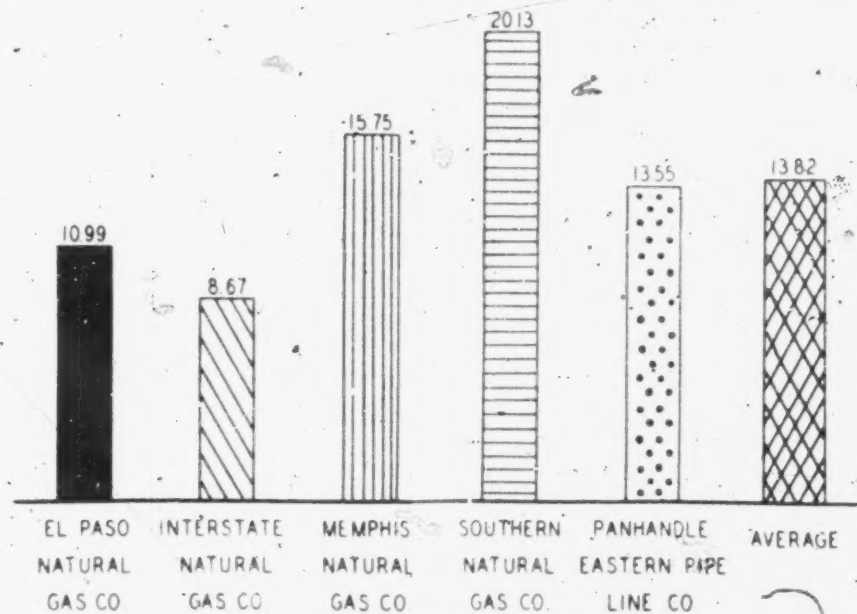
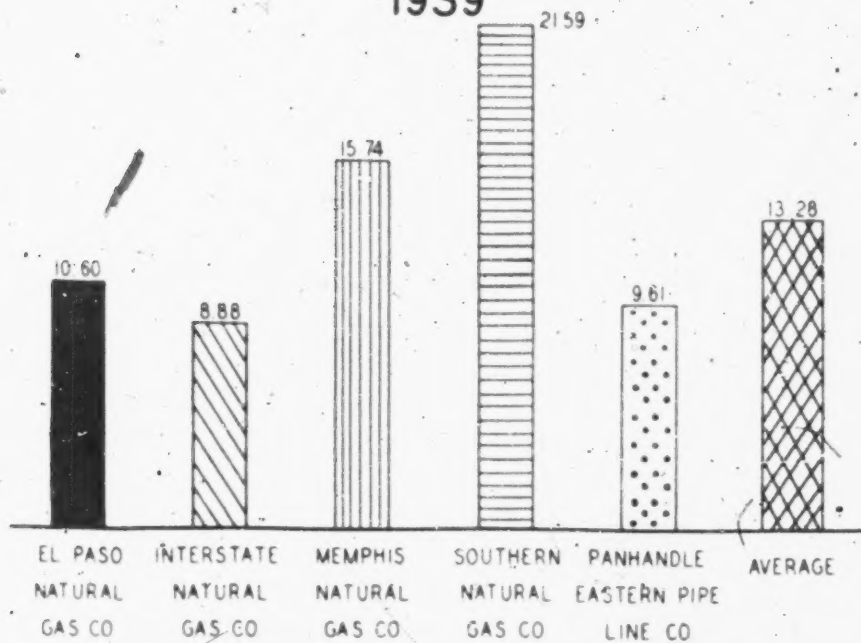
1937

1938



1939

1940



[fol. 13583] Current Earnings—Price Ratios of Natural Gas Pipe Line Common Stocks

In Chart No. 20, captioned "Current Earnings—Price Ratios of Natural Gas Pipe Line Common Stocks," the four boxes show earnings per share, average market price—Jan. 1 to August 31, 1941, earnings—price ratio, and % of earnings available for common stock of Panhandle Eastern compared with four natural gas companies.

The upper left hand box shows Panhandle's earnings of \$4.21 per share for the 12 months period ended June 30, 1941 compared with the earnings of \$3.61 of El Paso Natural Gas Co. and \$2.04 for Southern Natural Gas Co. during the same period. Interstate Natural Gas company earned \$2.07 per share and Memphis Natural Gas Co. earned \$0.69 during the calendar year ended December 31, 1940.

The upper right hand box compares the average market prices of these same companies for the period Jan. 1 to August 31, 1941.

Earnings—Price Ratio of Memphis Natural Gas Co. and Southern Natural Gas Co. are much higher than Panhandle, 15.10 and 17.27 as against 11.53. El Paso is approximately the same as Panhandle with 11.62 and Interstate Natural Gas Co. is considerably lower with 9.41.

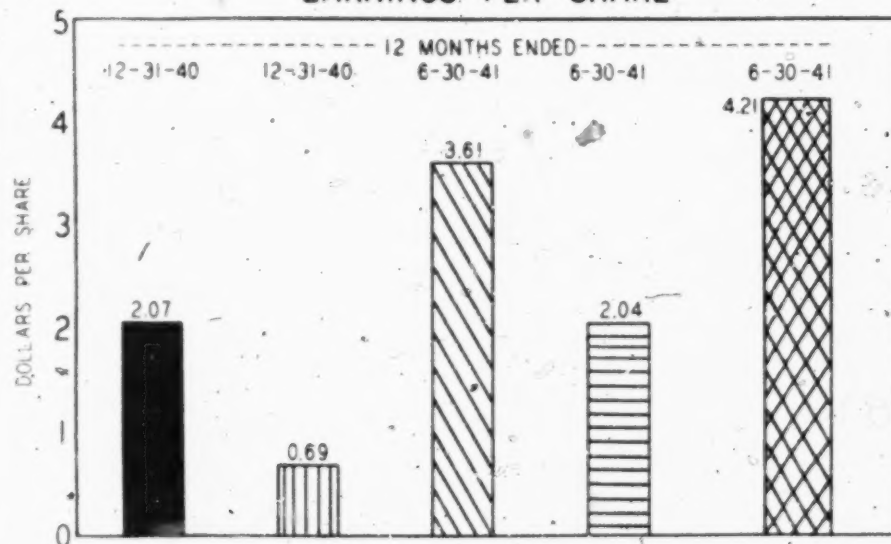
The percentage of earnings available for distribution to common holders of each of the companies as shown in the lower right hand box as follows:

Interstate Natural Gas Co.	100.00%
Memphis Natural Gas Co.	91.99%
El Paso Natural Gas Co.	80.85%
Southern Natural Gas Co.	71.22%
Panhandle Eastern Pipe Line Co.	58.41%

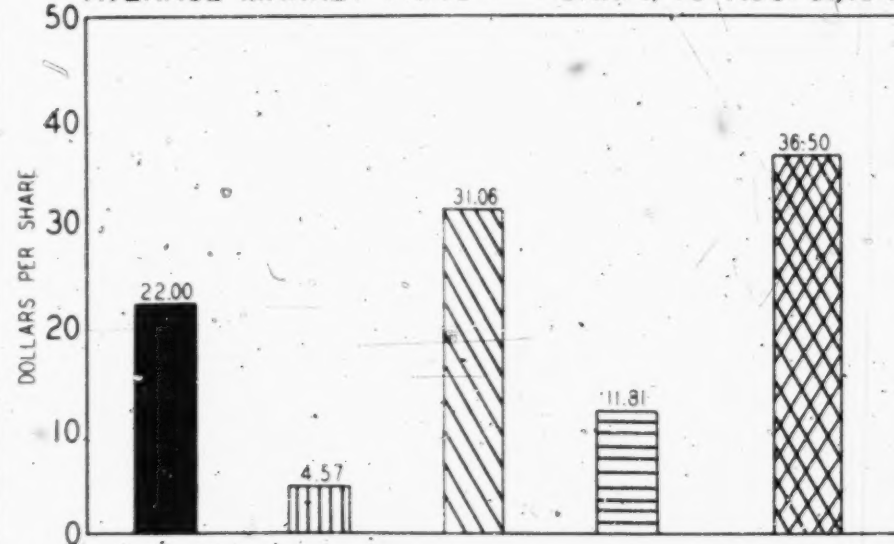
- CHART NO. 20 -

# CURRENT EARNINGS - PRICE RATIOS OF NATURAL GAS PIPE LINE COMMON STOCKS

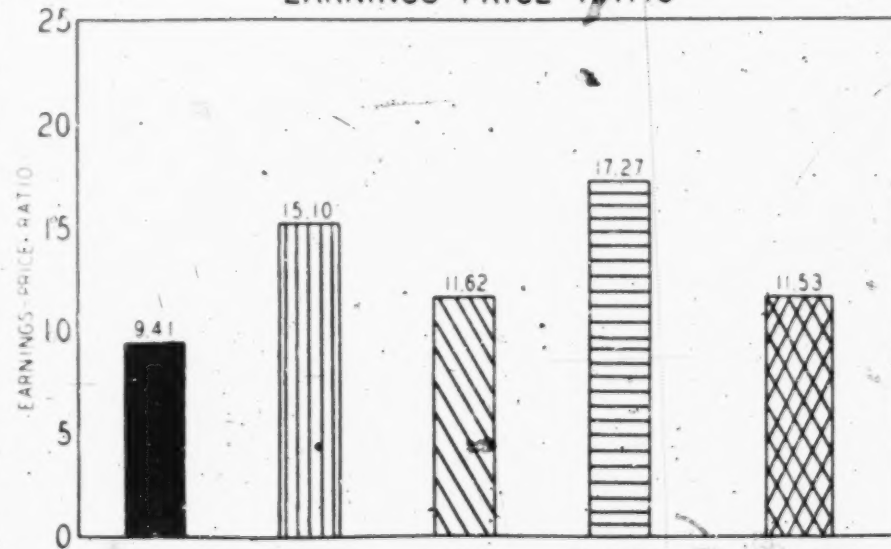
EARNINGS PER SHARE



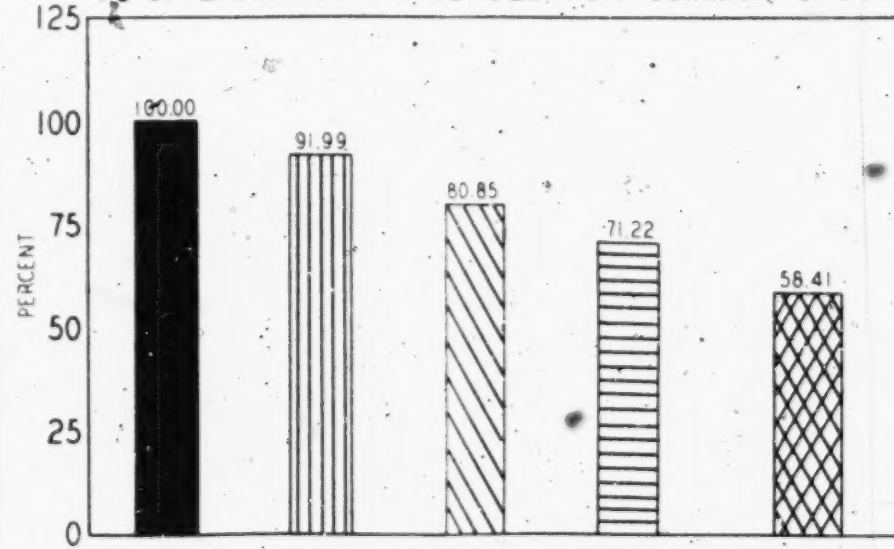
AVERAGE MARKET PRICE — JAN. 1, TO AUG. 31, 1941



EARNINGS-PRICE RATIO



% OF EARNINGS AVAILABLE FOR COMMON STOCK



INTERSTATE  
NATURAL  
GAS CO

MEMPHIS  
NATURAL  
GAS CO

EL PASO  
NATURAL  
GAS CO

SOUTHERN  
NATURAL  
GAS CO

PANHANDLE  
EASTERN  
PIPE LINE CO

INTERSTATE  
NATURAL  
GAS CO

MEMPHIS  
NATURAL  
GAS CO

EL PASO  
NATURAL  
GAS CO

SOUTHERN  
NATURAL  
GAS CO

PANHANDLE  
EASTERN  
PIPE LINE CO

[fol.13585] Cost of Financing Northern Natural Gas Company Common Stock—Offered to Public on September 10, 1941

In Chart No. 21 captioned "Cost of Financing Northern Natural Gas Company Common Stock—Offered to Public on September 10, 1941," the prices, commissions and expenses per share are shown in the left hand box of the chart. The earnings per share for the twelve months ended June 30, 1941, before and after adjusting for the tax increase under the Revenue Act of 1941, and the earnings-price ratio, as based on the price to the public and the net price to the seller are shown in the two boxes on the right side of the chart.

The data shown on this chart affords a concrete and typical example of costs involved in equity financing of an established natural gas pipe line company under prevailing market conditions. Also, it portrays clearly the rate of return demanded by investors on seasoned natural gas pipe line company common stocks.

On September 10, 1941, 355,250 shares of the Northern Natural Gas Company common stock, representing 35% of the total common stock outstanding, were offered to the public. As shown in the box on the left side of the chart, the price to the public (ex-dividend) was \$31.40 per share. The underwriting commissions and expenses to the seller totalled \$2.67 per share. Such costs represented 8.50% of the public offering price of \$31.40. On the basis of the net price to the seller of \$28.73 per share, the indicated current cost of financing of an established natural gas pipe line company's common stock was 9.29%.

As shown in the upper right hand box, the Northern Natural Gas Co. reported earnings of \$3.68 for the twelve months ended June 30, 1941. However, such were before giving effect to the increased corporate taxes under the Revenue Act of 1941. The company estimated that increased taxes under the new law would reduce the earnings shown for the period to \$3.26 per share.

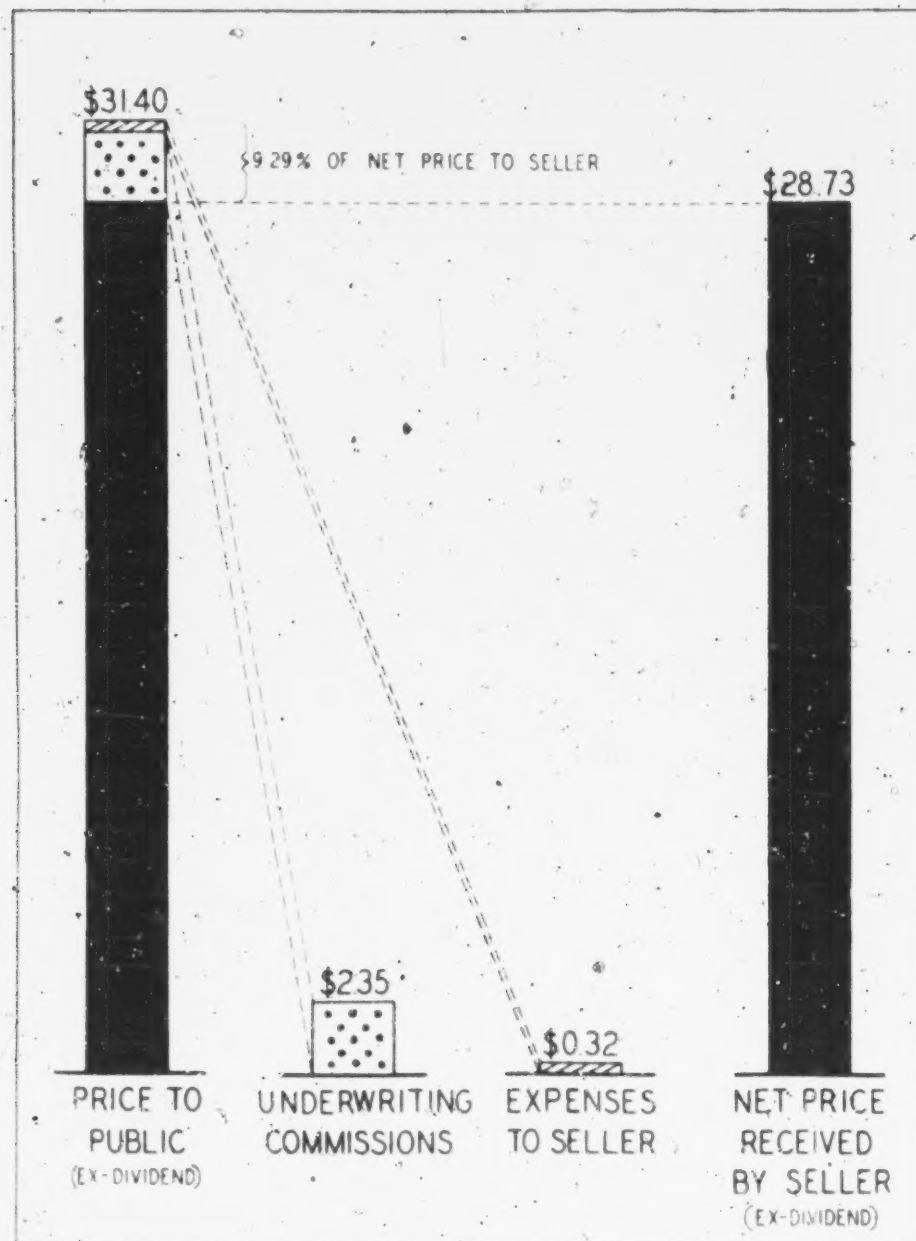
In order to gauge investors' demands, the earnings-price ratio was computed both on the adjusted and unadjusted bases and on the prices to the public and to the seller.

These ratios are shown in the lower right hand box. It will be seen that, on the basis of the price to the public, a ratio of 11.72% was shown on the earnings actually reported for twelve months ended June 30, 1941. After adjusting for increased taxes, a ratio of 10.38% was shown. Based on the net price to the seller, a ratio of 12.81% was shown on the earnings before the tax adjustment and 11.35% after the tax adjustment.

- CHART NO. 21 -

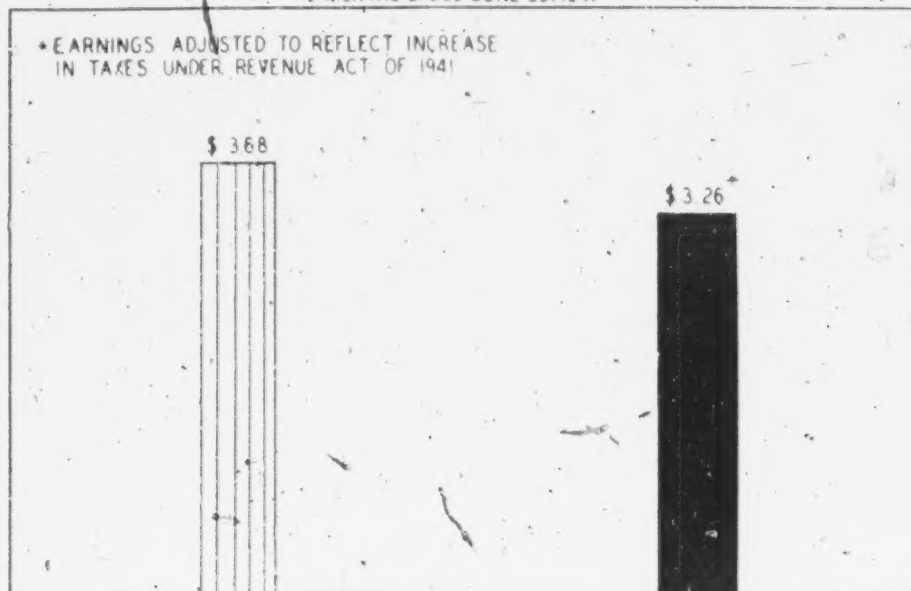
# COST OF FINANCING NORTHERN NATURAL GAS CO. COMMON STOCK—OFFERED TO PUBLIC ON SEPTEMBER 10, 1941

## PRICES, COMMISSIONS & EXPENSES PER SHARE

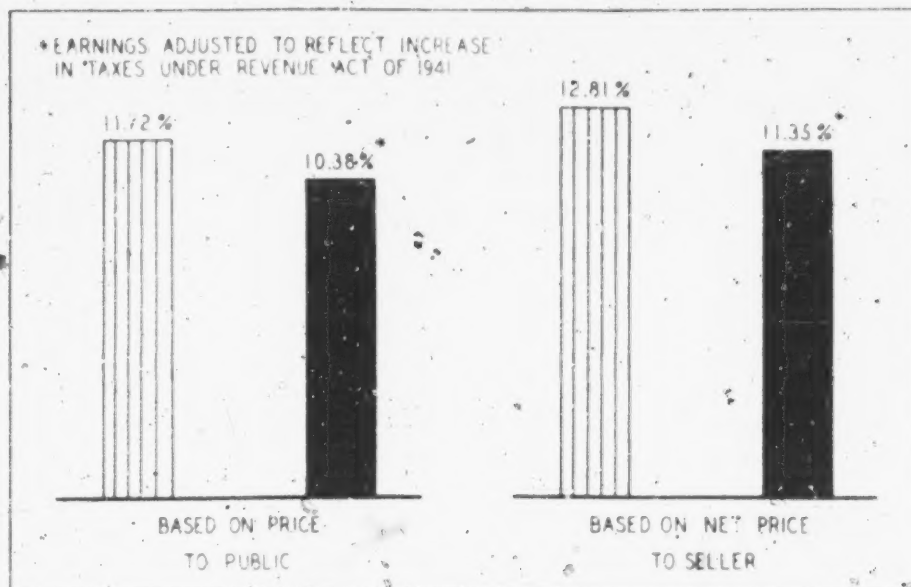


## EARNINGS PER SHARE

12 MONTHS ENDED JUNE 30, 1941

\* EARNINGS ADJUSTED TO REFLECT INCREASE  
IN TAXES UNDER REVENUE ACT OF 1941

## EARNINGS-PRICE RATIO

\* EARNINGS ADJUSTED TO REFLECT INCREASE  
IN TAXES UNDER REVENUE ACT OF 1941

[fol. 13587] Estimated Current Cost of Financing Common  
Stock of Panhandle Eastern Pipe Line Co.

Chart No. 22, captioned "Estimated Current Cost of Financing Common Stock of Panhandle Eastern Pipe Line Company" summarizes the earnings-price ratios for pipe line companies as a group, the Panhandle Eastern Pipe Line Company, and Northern Natural Gas Company for purposes of comparison in determining a rate that would be considered representative and fair so far as the current cost of new common stock financing for the Panhandle Eastern Pipe Line Company is concerned.

The green bar shows an average ratio of 12.99% for pipe line companies as a group, as based on 1941 market prices. The red bar on the left side of the chart shows an earnings-price ratio of the Panhandle Eastern Pipe Line Company of 11.53% on the same basis. The yellow bar, which shows an earnings-price ratio of 11.35%, represents the actual current cost of common stock financing for the Northern Natural Gas Company, as based on the adjusted earnings for the twelve months ended June 30, 1941, and the net price to the seller.

After a consideration of all factors, it was concluded that 12% was a representative and fair rate of the current cost of new common stock financing for the Panhandle Eastern Pipe Line Company.

- CHART NO. 22 -

# ESTIMATED CURRENT COST OF FINANCING COMMON STOCK OF PANHANDLE EASTERN PIPE LINE CO.

AVERAGE OF  
PIPE LINE  
COMPANIES

12.99%

PANHANDLE  
EASTERN  
PIPE LINE CO.

11.53%

NORTHERN NATURAL  
GAS CO.

11.35%

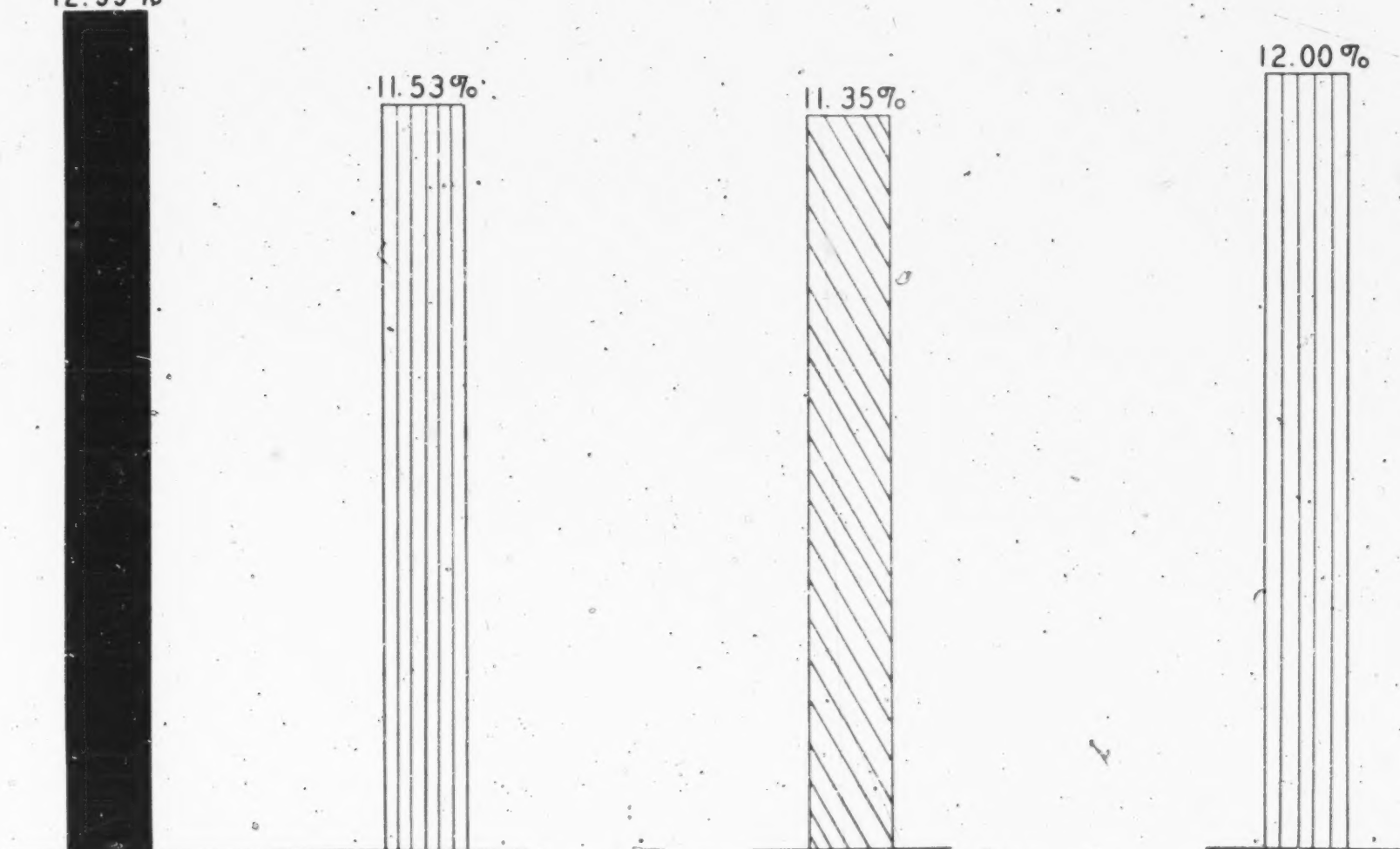
PANHANDLE  
EASTERN  
PIPE LINE CO.

12.00%

EARNINGS-PRICE RATIO  
BASED ON 1941 MARKET PRICES

ACTUAL PUBLIC FINANCING  
BASED ON PRICE TO SELLER

ESTIMATED FOR  
NEW FINANCING



[fol. 13589] Continuing Growth of Panhandle System  
Indicates Future Needs for New Capital

In Chart No. 23, captioned "Continuing Growth of Panhandle System Indicates Future Needs for New Capital," the two upper boxes show the growth of Panhandle Eastern's transmission system from December 31, 1936 to December 31, 1940.

In the upper left hand box, the solid red bars represent the number of miles of gathering, main and lateral pipe line in the company's transmission system. Pipe line miles increased in each year, from 1,651 miles at December 31, 1936 to 2,374 miles at December 31, 1940. The largest increases were in 1937 and 1940.

In the upper right box the bars represent the installed capacity, expressed in thousand horsepower, of the compressor stations in the company's system.

Installed horsepower increased from 43,300 at December 31, 1936, to 86,100 at December 31, 1940. Again, the greatest increases were in 1937 and 1940.

The bars in the lower left box represent, in million dollars, the gross property of Panhandle Eastern at December 31 of each of the years 1936 through 1940. Gross property increased from \$46,643,078 at December 31, 1936 to \$64,854,956 at December 31, 1940.

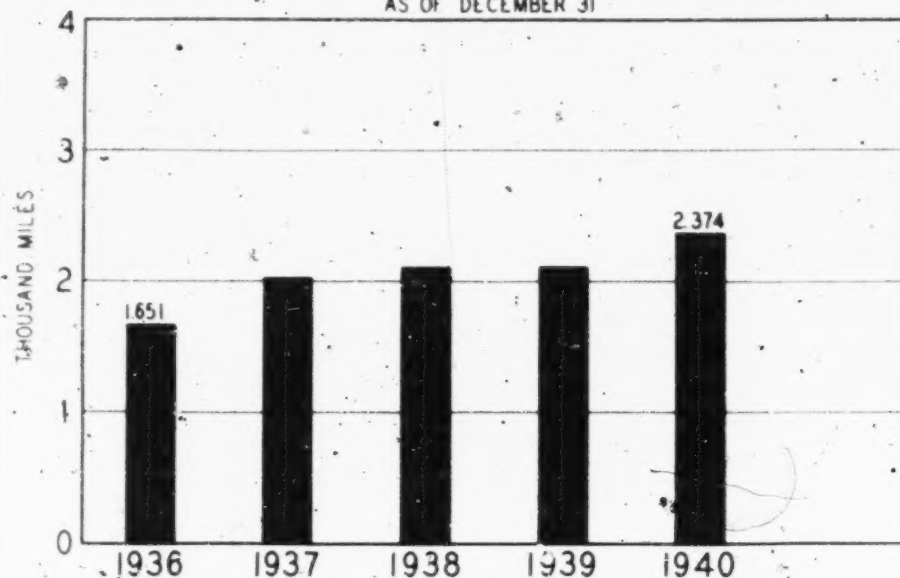
The bars in the lower right box represent, in million dollars, the amount of the increase in gross property in each of the five years 1936 through 1940. As was the case with pipe line miles and installed horsepower, the largest increases were in 1937 (\$11,416,937) and 1940 (\$5,375,228).

In the five years, 1936 through 1940, the average annual demand for new capital, as represented by the increase in gross property, plant and equipment, was \$4,500,916.

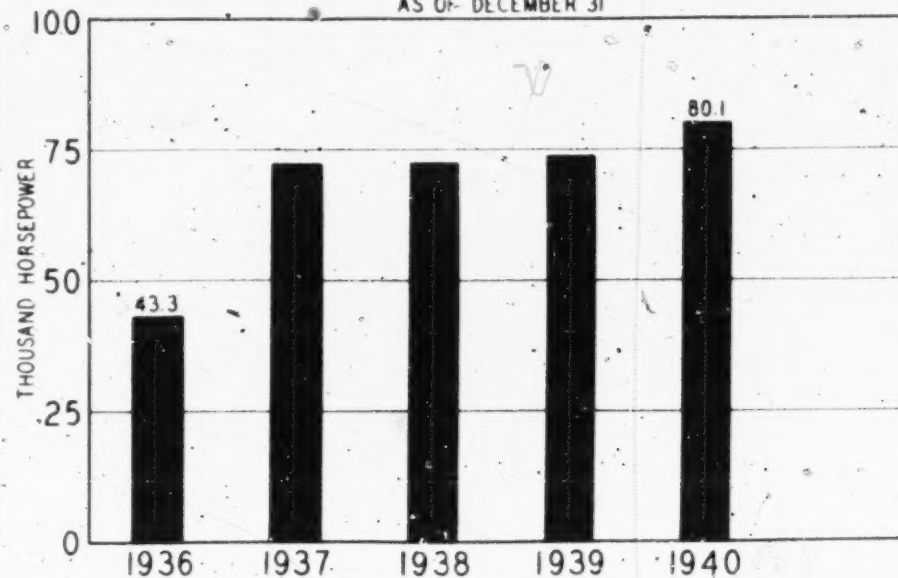
- CHART NO. 23 -

# CONTINUING GROWTH OF PANHANDLE SYSTEM INDICATES FUTURE NEEDS FOR NEW CAPITAL

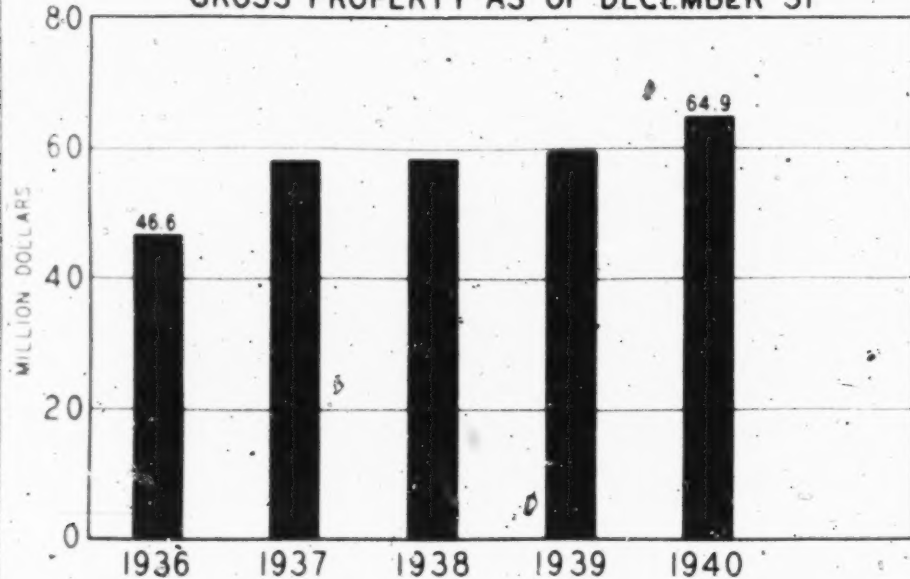
PIPE LINE MILES GATHERING MAIN & LATERAL  
AS OF DECEMBER 31



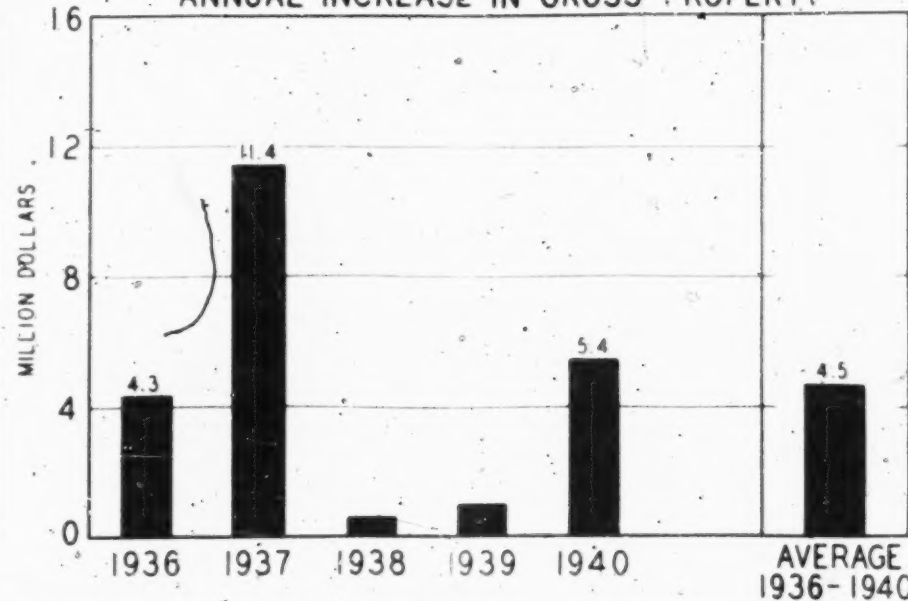
INSTALLED HORSEPOWER OF COMPRESSOR STATIONS  
AS OF DECEMBER 31



GROSS PROPERTY AS OF DECEMBER 31



ANNUAL INCREASE IN GROSS PROPERTY



[fol. 13591] Panhandle Eastern Pipe Line Company  
Invested Capital as of June 30, 1941

In Chart No. 24, captioned "Panhandle Eastern Pipe Line Company Invested Capital as of June 30, 1941," the company's invested capital is shown in detail, first, on the basis of book value and second, on the basis of market value:

It will be seen that total invested capital of the company, on the basis of book value, amounted to \$61,423,853 on June 30, 1941. Of this total, net long term debt, after deducting debt discount and expense, amounted to \$21,165,568 or 34.46%. Preferred stock, as represented by 100,000 shares of Class A participating preferred stock, \$100 par, and 10,000 shares of Class B preferred stock, par \$100, accounted for \$11,000,000, or 17.91% of the total. Common stock, as represented by 807,367 shares of no par value, was carried at a book value of \$20,184,175. Earned surplus amounted to \$9,074,120. Combined common stock and surplus of \$29,258,295 represented 47.63% of the total invested capital on June 30, 1941.

Total invested capital, on the basis of market value, amounted to \$64,219,240, or moderately above the stated book value. Market prices, wherever available, represent the averages of the high and low prices witnessed for the period January 1 to August 31, 1941. Actual market prices were available only on the \$12,000,000 First Mortgage and First Lien "B" Bonds, due 1960 and the common stock. The average market price for the bonds for the period was 101.94, while the average market price for the common stock was 36.50. In the case of the First Mortgage and First Lien "A" Bonds, due 1946-50 and the Serial Notes, prices were estimated at 100, inasmuch as these issues were sold privately at 100 to several banking institutions and one insurance company.

The preferred stocks, which are owned by the Columbia Oil & Gasoline Corporation, were valued on the prices at which redemption of the stocks is contemplated, namely \$100 for the preferred A and \$125 for the preferred B stock.

The percentage relationship of the various capital obligations on the basis of market value, were only slightly different from the ratios shown on the basis of book value, due the proximity of market values to book values. As shown, the market value of long term debt amounted to \$23,500,344, or 36.50% of the total invested capital. The value of the preferred stocks, at redemption prices amounted to \$11,250,000 or 17.52% of the total, while common stock and surplus of \$29,468,896 accounted for 45.89% of the total.

- CHART NO. 24 -

# PANHANDLE EASTERN PIPE LINE COMPANY

## INVESTED CAPITAL AS OF JUNE 30, 1941

	PRINCIPAL AMOUNT OR SHARES	BOOK VALUE	PER CENT OF TOTAL	(1) MARKET PRICE	MARKET VALUE	PER CENT OF TOTAL
<b>LONG-TERM DEBT</b>						
1ST MORTG. & 1ST LIEN S.P. "B" 3's, 1960	\$12,000,000	\$12,000,000		101.94	\$12,232,800	
1ST MORTG. & TRUST LIEN "A", 1.65-2.30%, 1946-60	6,250,000	6,250,000		(2) 100.00	6,250,000	
SERIAL NOTES A, B, C & D, 0.75-1.50%, DUE 11/1/42-46	5,000,000	5,000,000		(2) 100.00	5,000,000	
LEASEHOLD PURCHASE OBLIGATIONS	17,544	17,544		(3) 100.00	17,544	
<b>TOTAL DEBT</b>		<b>23,267,544</b>			<b>23,500,344</b>	
LESS: DEBT DISCOUNT AND EXPENSE		<b>2,101,986</b>				
<b>NET DEBT</b>		<b>21,165,558</b>	<b>34.05%</b>		<b>23,500,344</b>	<b>36.50%</b>
<b>PREFERRED STOCKS</b>						
\$5 CUM. PFD. CLASS A, PARTICIPATING AND REDEEMABLE	100,000 shs.	10,000,000		(4) 100.00	10,000,000	
\$5 CUM. PFD. CLASS B, NON-PARTICIPATING AND NON-REDEEMABLE	10,000 shs.	1,000,000		(4) 225.00	1,250,000	
<b>TOTAL PREFERRED STOCKS</b>		<b>11,000,000</b>	<b>17.91</b>		<b>11,250,000</b>	<b>17.52</b>
<b>COMMON STOCKS AND SURPLUS</b>						
COMMON STOCK (NO. PAR)	807,367 shs.	20,184,175		(5) 36.50	29,468,896	
EARNED SURPLUS		9,074,120				
<b>TOTAL COMMON STOCK AND SURPLUS</b>		<b>29,258,295</b>	<b>47.63</b>		<b>29,468,896</b>	<b>45.56</b>
<b>TOTAL INVESTED CAPITAL</b>		<b>\$61,423,853</b>	<b>100.00%</b>		<b>\$64,219,240</b>	<b>100.00%</b>

NOTES: (1). BASED UPON AVERAGE OF HIGH AND LOW MARKET PRICES FOR THE PERIOD JANUARY 1 TO AUGUST 31, 1941.

(2). PRICES ESTIMATED. SOLD PRIVATELY IN JANUARY 1941 AT 100 TO SEVERAL BANKING INSTITUTIONS AND ONE INSURANCE COMPANY.

(3). PRICE ESTIMATED.

(4). PRICES ESTIMATED. AMOUNTS USED ARE THE PRICES AT WHICH REDEMPTION OF THE STOCKS IS CONTEMPLATED.

(5). PRICE FROM NATIONAL QUOTATION BUREAU.

[fol. 13593] Preferred Stock Unusual in Natural Gas Pipe Line Companies

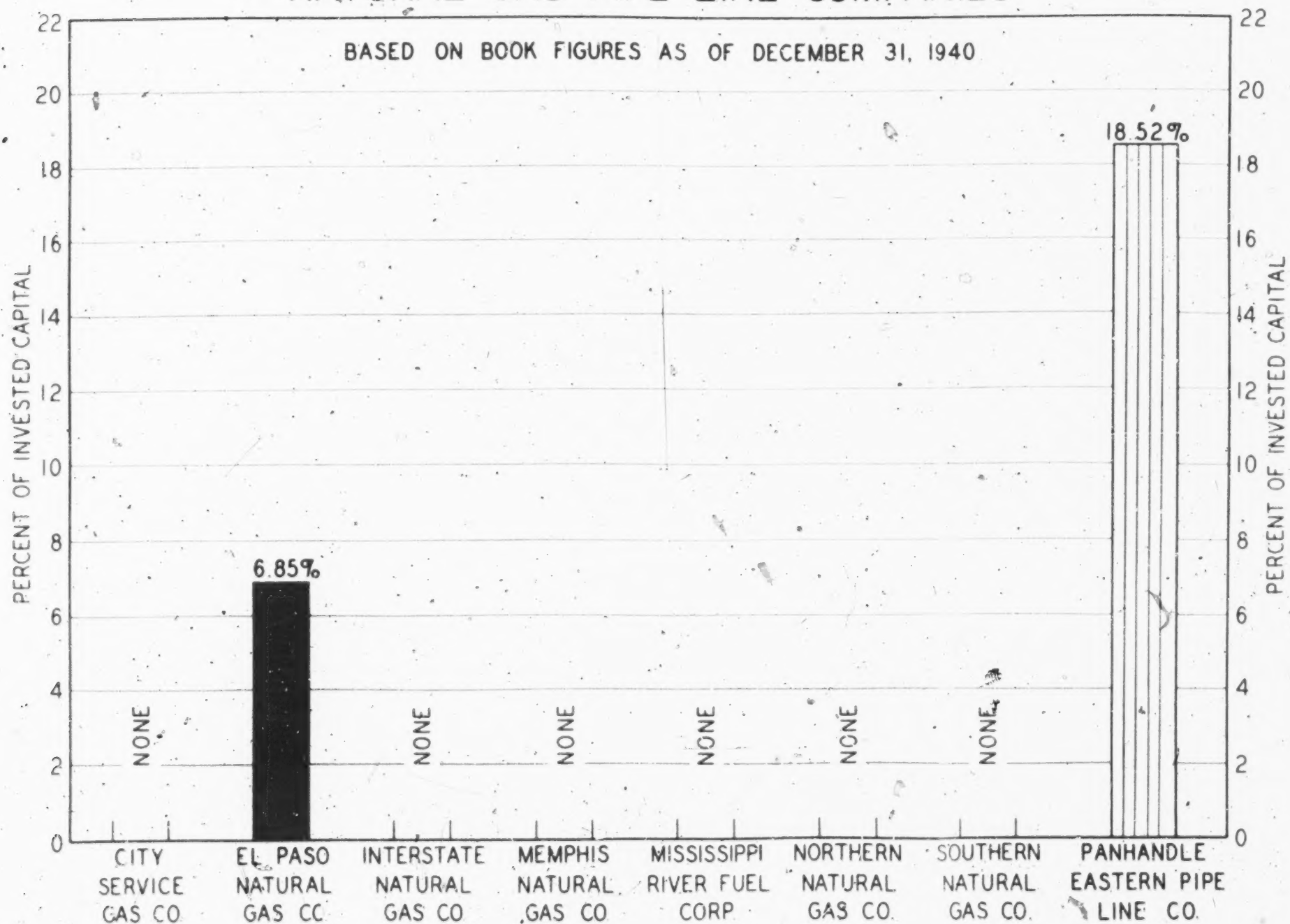
In Chart No. 25, captioned "Preferred Stock Unusual in Natural Gas Pipe Line Companies," the solid bars represent the percent (based on book figures as of December 31, 1940) borne by the preferred stock of each of eight natural gas pipe line companies to the total book value of invested capital (net debt, preferred stock, common stock and surplus) of the respective companies.

As can be seen from the chart, Panhandle Eastern Pipe Line Company, with the exception of El Paso Natural Gas Company, is the only one of the companies which has preferred stock outstanding. The 14,797 shares of preferred stock of El Paso, representing only 6.85% of total capitalization at December 31, 1940, are a carry-over from the company's original financing, and judging by quoted market price could easily be refunded if the issue were of such size to make such a program feasible.

The proportion of Panhandle Eastern's total capitalization made up of preferred stock at December 31, 1940 was 18.52%.

The significance attached to this chart, in my opinion, is that a preferred stock is difficult to justify in the capital structure of a natural gas pipe line company, or, for that matter, the capital structure of any company connected with a wasting industry in which the product sold will ultimately be exhausted.

- CHART NO. 25 -

PREFERRED STOCK UNUSUAL IN  
NATURAL GAS PIPE LINE COMPANIES

[fol. 13595] Earnings Necessary to Maintain Credit Position of Panhandle Eastern Pipe Line Co.

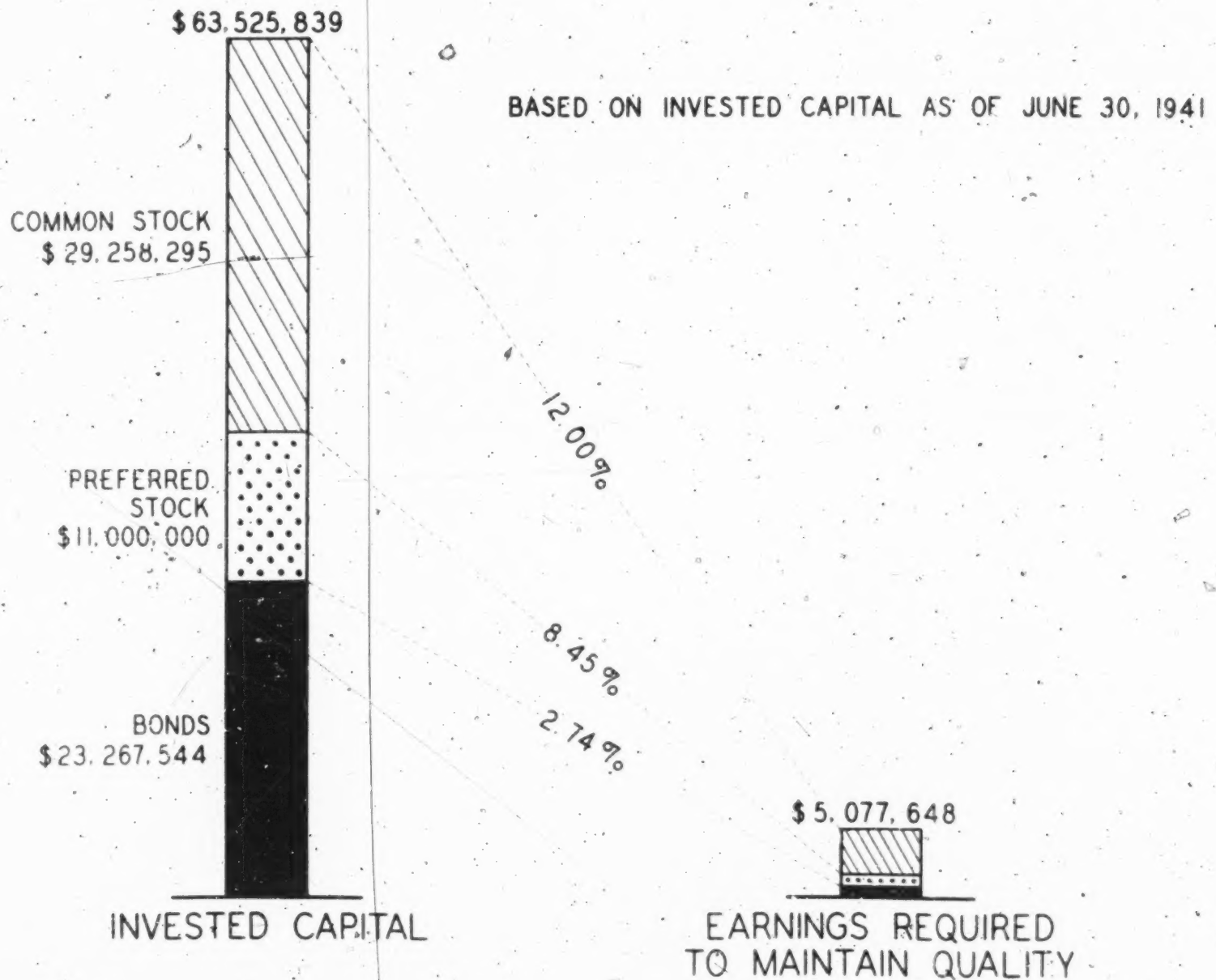
In Chart No. 26, captioned "Earnings Necessary to Maintain Credit Position of Panhandle Eastern Pipe Line Co.," I show the amount of earnings required to maintain quality of the company's presently outstanding securities:

The bar on the left side of the chart shows in detail the total invested capital of the company on June 30, 1941. The solid red portion of the bar represents the total amount of long term debt outstanding, or \$23,267,544. The dotted portion represents the preferred stock outstanding in the amount of \$11,000,000, while the diagonally lined portion represents the common stock equity of \$29,258,295. Total invested capital, it will be seen, amounted to \$63,525,839.

In the center of the chart are shown the rates that were used in computing the earnings required to maintain the quality on the various components of invested capital. In the case of the bonds, a rate of 2.74% was used, which rate represents the average annual cost of senior capital raised in the 1941 refinancing. The rate of 8.45% used in the case of the preferred stock was based on the annual dividend requirements on the Class A and B issues, the former being computed on the basis of the regular \$6 dividend plus a participation of \$2.50 per share, and the latter being taken at the regular \$6 annual dividend. In the case of the common stock, the rate of 12% was used, which rate was considered representative of the cost of common stock financing for an established natural gas pipe line company.

The bar on the right hand side of the chart shows the earnings required to maintain the quality of capital securities outstanding, as computed on the book value of invested capital and the rates mentioned above. For the bonds, the 2.74% rate figures out at the amount of \$637,531 needed to maintain service charges on this portion of invested capital. The earnings required to meet the dividend requirements on the preferred A and B stocks amounted to \$929,122, while on the common stock equity, earnings of \$3,510,995 were required to cover the indicated 12% rate on this type of capital. Thus, earnings necessary to maintain credit position of the Panhandle Eastern Pipe Line Company, on the basis of the presently outstanding securities, amounted to \$5,077,648.

# EARNINGS NECESSARY TO MAINTAIN CREDIT POSITION OF PANHANDLE EASTERN PIPE LINE CO.



[fol. 13597] Earnings Necessary to Maintain Credit  
Position of Panhandle Eastern Pipe Line Co.

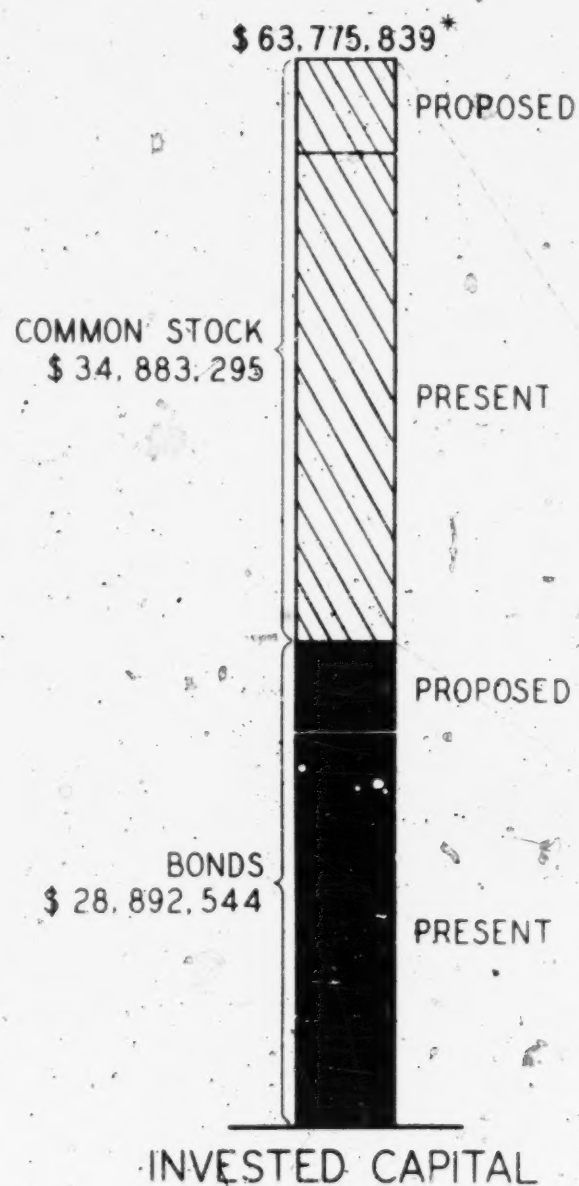
In Chart No. 27, captioned "Earnings Necessary to Maintain Credit Position of Panhandle Eastern Pipe Line Co.," the tall bar at the left represents the total capitalization of Panhandle Eastern (assuming that the present preferred stock is refinanced 50% by means of bonds sold to yield 3.25% and 50% by means of common stock sold on a 12% earnings-price ratio). The short bar at the right represents earnings required to maintain the credit position of Panhandle Eastern.

Of the total proposed capitalization of \$63,775,839, bonds represented by the solid red portion of the bar, would be \$28,892,544 and would require, at an overall rate of 2.84%, \$820,343 annually. Common stock, represented by the diagonally lined portion of the bar, would be \$34,883,295 and would require, at an earnings-price ratio of 12%, \$4,185,995. The total annual earnings requirement, therefore would be \$5,005,338 to maintain the credit position of Panhandle Eastern Pipe Line Company.

The computation of overall yield rates and proposed capitalization appear in the Appendix on the sheet marked "Table for Chart No. 27."

- CHART NO. 27 -

# EARNINGS NECESSARY TO MAINTAIN CREDIT POSITION OF PANHANDLE EASTERN PIPE LINE CO.



ASSUMING REFINANCING OF PRESENT PREFERRED STOCK  
BY MEANS OF 50% BONDS SOLD AT 3.25% AND 50%  
COMMON STOCK SOLD AT 12%

\* OF WHICH 45.30% WOULD BE DEBT  
AND 54.70% WOULD BE COMMON STOCK  
AND SURPLUS

\$5,006,338

EARNINGS REQUIRED  
TO MAINTAIN QUALITY

[fol. 13599] Overall Cost of Capital to Panhandle Eastern  
Based on Ideal Capital Structure

In Chart No. 28, captioned "Overall Cost of Capital to Panhandle Eastern Based on Ideal Capital Structure," I show the overall cost of capital to the company, as based on a so-called ideal capital structure, composed of 40% bonds and 60% common stock.

In arriving at an ideal capital structure for the Panhandle Eastern Pipe Line Company I eliminated preferred stock entirely on the basis that such type of security is not a particularly good medium with which to finance natural gas pipe line companies. By the very nature of their operations, natural gas pipe lines must be placed in the category of wasting assets. Although a preferred issue which carried a sinking fund feature might be justified, such a security would more or less have the characteristics of a bond.

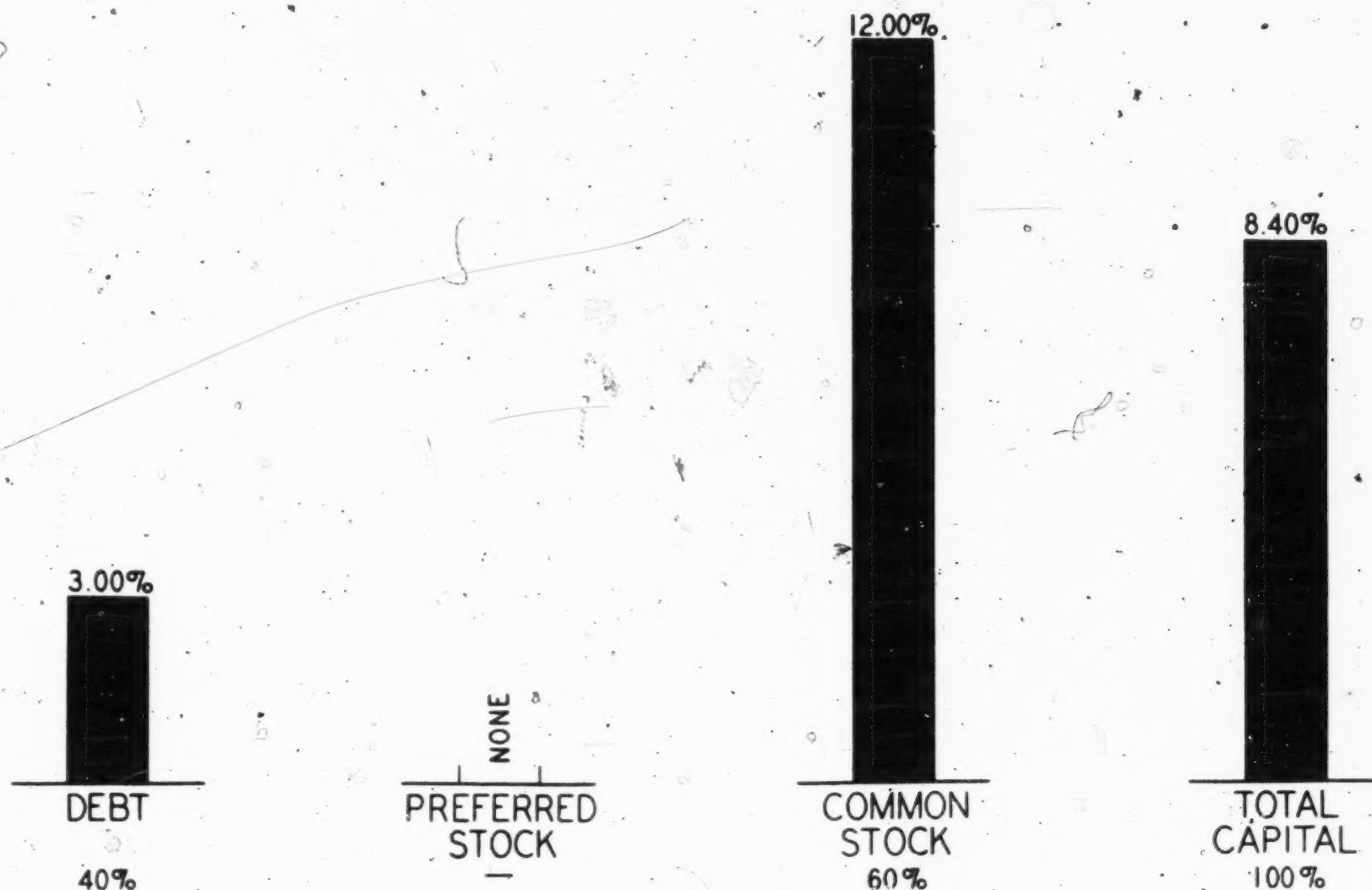
Under this ideal capital structure of 40% bonds and 60% common stock I have concluded, after a careful study of all pertinent factors, that the company could issue bonds on a 3.00% basis. This rate is indicated by the bar on the left side of the chart. In the case of the common stock, the cost of financing has been placed at 12.00%.

On the basis of such a capital structure, and the above financing costs, the overall cost of capital to the Panhandle Eastern Pipe Line Company would be 8.40%.

- CHART NO. 28 -

# OVERALL COST OF CAPITAL TO PANHANDLE EASTERN BASED ON IDEAL CAPITAL STRUCTURE

CAPITAL STRUCTURE COMPOSED OF  
40% BONDS & 60% COMMON STOCK



[fol. 13601] Dollars Needed Annually by Panhandle For Operations & Maintenance

Having determined the dollar earnings on invested capital necessary to maintain the credit position of Panhandle Eastern Pipe Line Company and the overall cost of capital based upon an ideal capital structure of 40% bonds and 60% common stock, I next proceeded to determine the irreducible minimum annual gross revenue that would be necessary over the next few years, in the light of current and prospective business conditions, to operate the pipe line and provide efficient and adequate service to customers, a reasonable return to investors, and to restore invested capital when the gas reserves of the company were exhausted.

In Chart No. 29, captioned "Dollars Needed Annually by Panhandle for Operations & Maintenance," the bar at the left shows the actual expenditures made during the 12 months ended June 30, 1941 for operations and maintenance and the bar on the right shows my projected estimate as to the minimum amount that will be needed for such expenditures over the next few years, based on cost trends that are rather clearly evident at the present time.

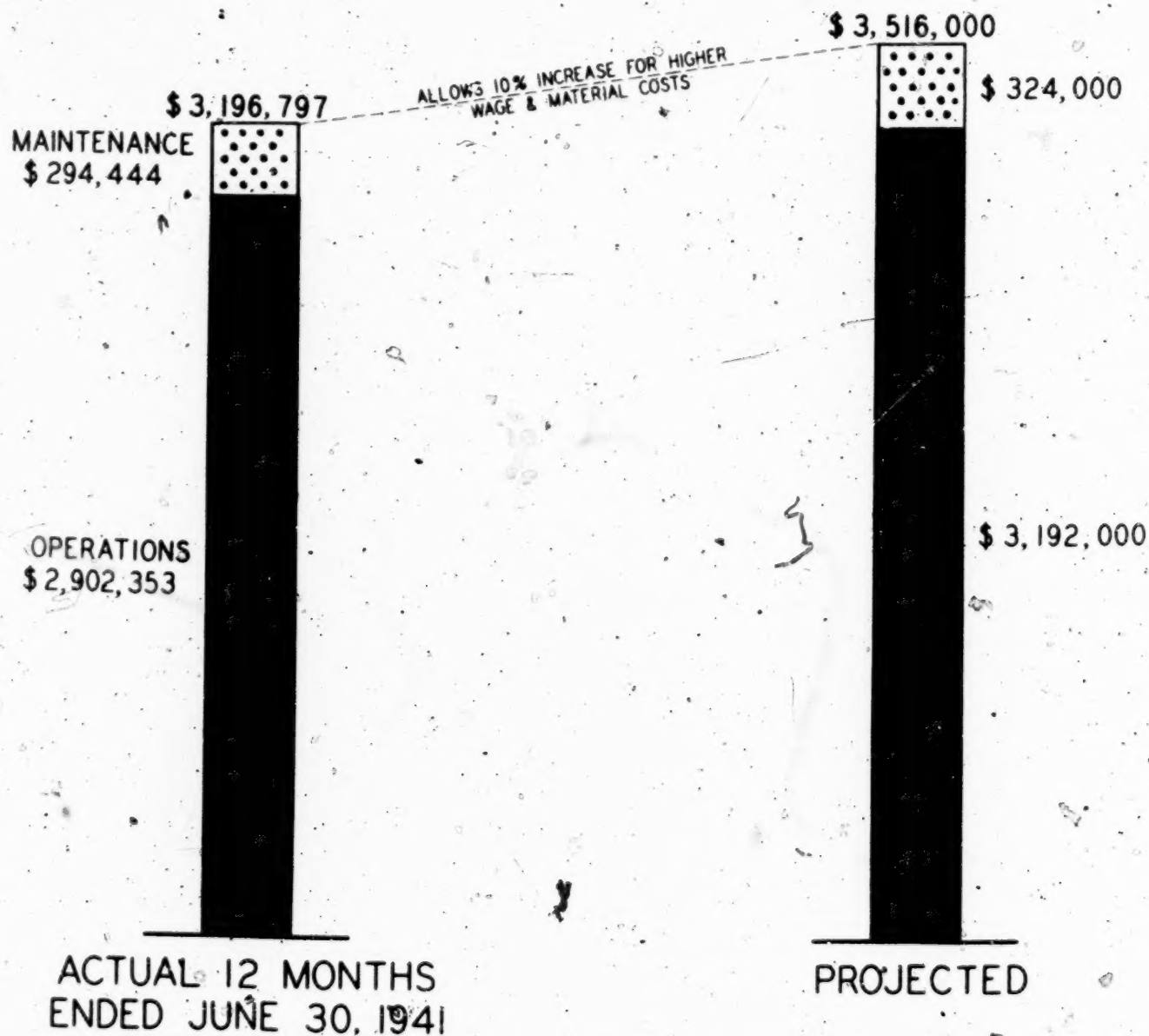
As shown in the left hand bar, actual cost of operations was \$2,902,353 and of maintenance, \$294,444, in the 12 months ended June 30, 1941. Included in the first figure were such items as the cost of gas produced and purchased, the wage and material costs necessary to operate the pipe line system, and the general overhead comprised of office salaries and other expenses. The maintenance figure includes the cost of wages and materials necessary to maintain the pipe line, the compressor stations and all other physical equipment.

While I gave careful consideration to the various items of expense pertaining to a company such as Panhandle Eastern Pipe Line Company, I did not actually examine the detailed records of the company nor did I attempt to project the amount of dollars that would be needed annually in the next few years for each individual item of expense. However, from a general knowledge of trends of raw material costs and wage rates, and realizing fully the

seriousness of the problem of ~~presenting~~ a serious inflation in this country during the next two years, I estimated that the minimum amount of dollars necessary to operate and maintain the Panhandle Eastern Pipe Line Company over the next year or so would average at least 10% higher than the actual expenses incurred in the twelve months ended June 30, 1941.

On such basis, it was determined that the company would need annually \$3,192,000 for operations and \$324,000 for maintenance, or a total of \$3,516,000 for such costs over a reasonable period in the future. I feel quite strongly that if this estimate ultimately proves in error, the error will be toward understatement of future costs rather than overstatement.

# DOLLARS NEEDED ANNUALLY BY PANHANDLE FOR OPERATIONS & MAINTENANCE



[fol.13603] Dollars Needed Annually by Panhandle  
for Taxes

In Chart No. 30, captioned, "Dollars Needed Annually by Panhandle for Taxes," the left hand bar represents the amount of taxes shown in the report of the company for the 12 months ended June 30, 1941, and the right hand bar shows a reasonable projection of the amount that will be payable by the company on average over the next few years.

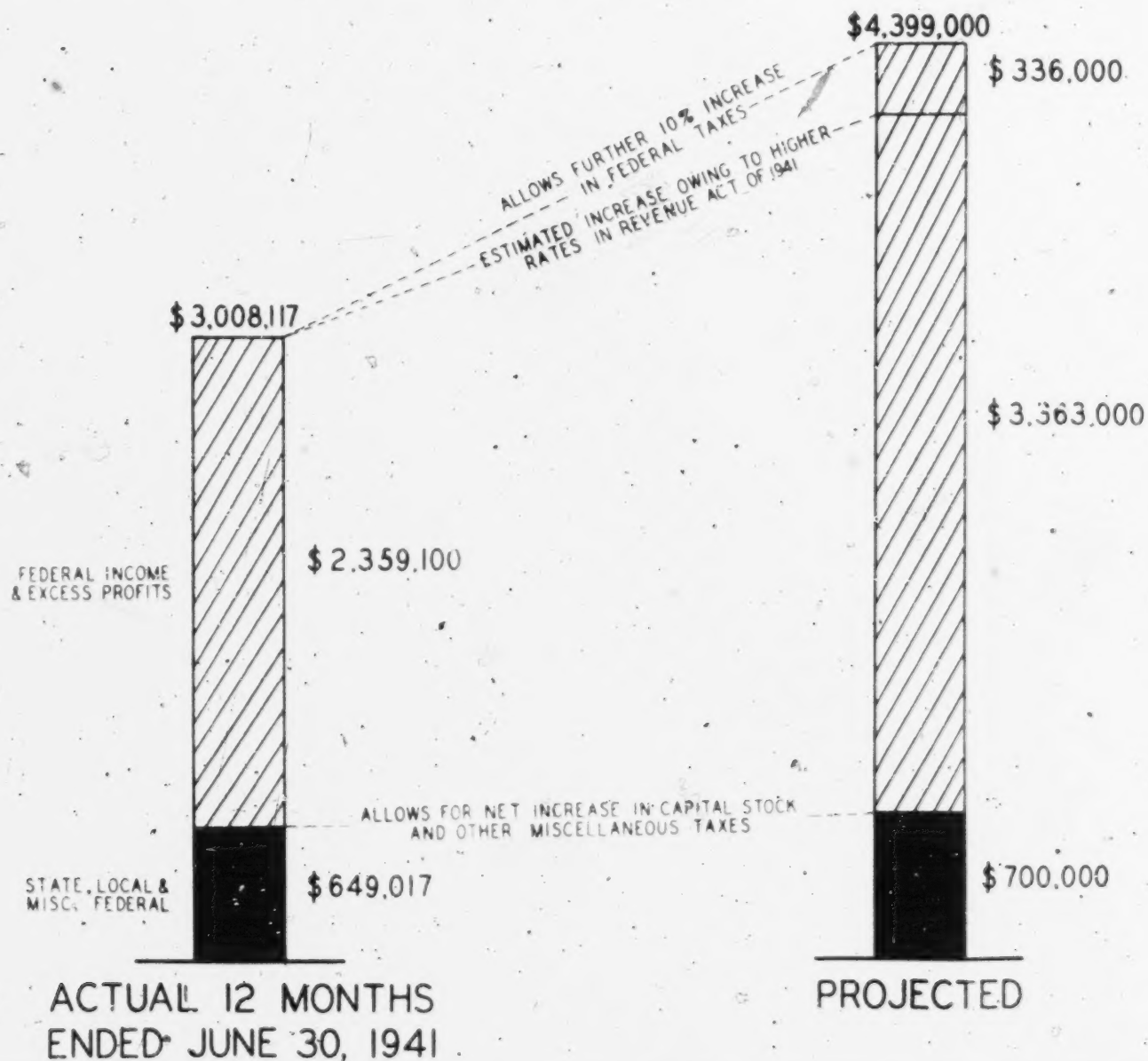
In the report for the 12 months ended June 30, 1941 as published by the company, State, local and miscellaneous Federal taxes were deducted in the amount of \$649,017, and Federal income and excess profits taxes were deducted in the amount of \$2,359,000. As was clearly indicated, this latter amount was "computed without regard to special taxes resulting from the refinancing consummated during February, 1941, and without making provision for possible increases in rates or otherwise during 1941." In other words, such taxes were computed at the rates prescribed in the "Second Revenue Act of 1940."

As is well known, however, this Act is now a matter of history and has been superseded by the "Revenue Act of 1941," which establishes, among other things, considerably higher tax rates for corporations. On the basis of such rates an amount of income which was actually earned in the 12 months ended June 30, 1941, I have computed that the company's tax liability for Federal income, surtax and excess profits tax would be slightly more than \$1,000,000 higher than the amount shown in the report for that period, or a total of \$3,363,000, as shown in the right hand bar of the accompanying chart. Moreover, as is generally anticipated, the tax rates established in the Revenue Act of 1941 are likely to be increased again in 1942 in order to finance the unusual expenditures of the present war efforts. In order to give some weight to such additional tax prospects, I have assumed a further 10% increase in Federal taxes in 1942, or an increase of \$336,000. I have also allowed for a modest increase in the capital stock and other miscellaneous taxes from \$649,017 as actually incurred in the 12 months ended June 30, 1941 to \$700,000 as a reasonable estimate of future needs.

In total, therefore, I arrived at the figure of \$4,399,000 as being a minimum estimate of the annual needs of the Panhandle Eastern Pipe Line Company for taxes over a reasonable period in the future. This estimate is, of course, considerably in excess of the \$3,008,117 of total taxes computed in the report for the 12 months ended June 30, 1941.

- CHART NO. 30 -

# DOLLARS NEEDED ANNUALLY BY PANHANDLE FOR TAXES



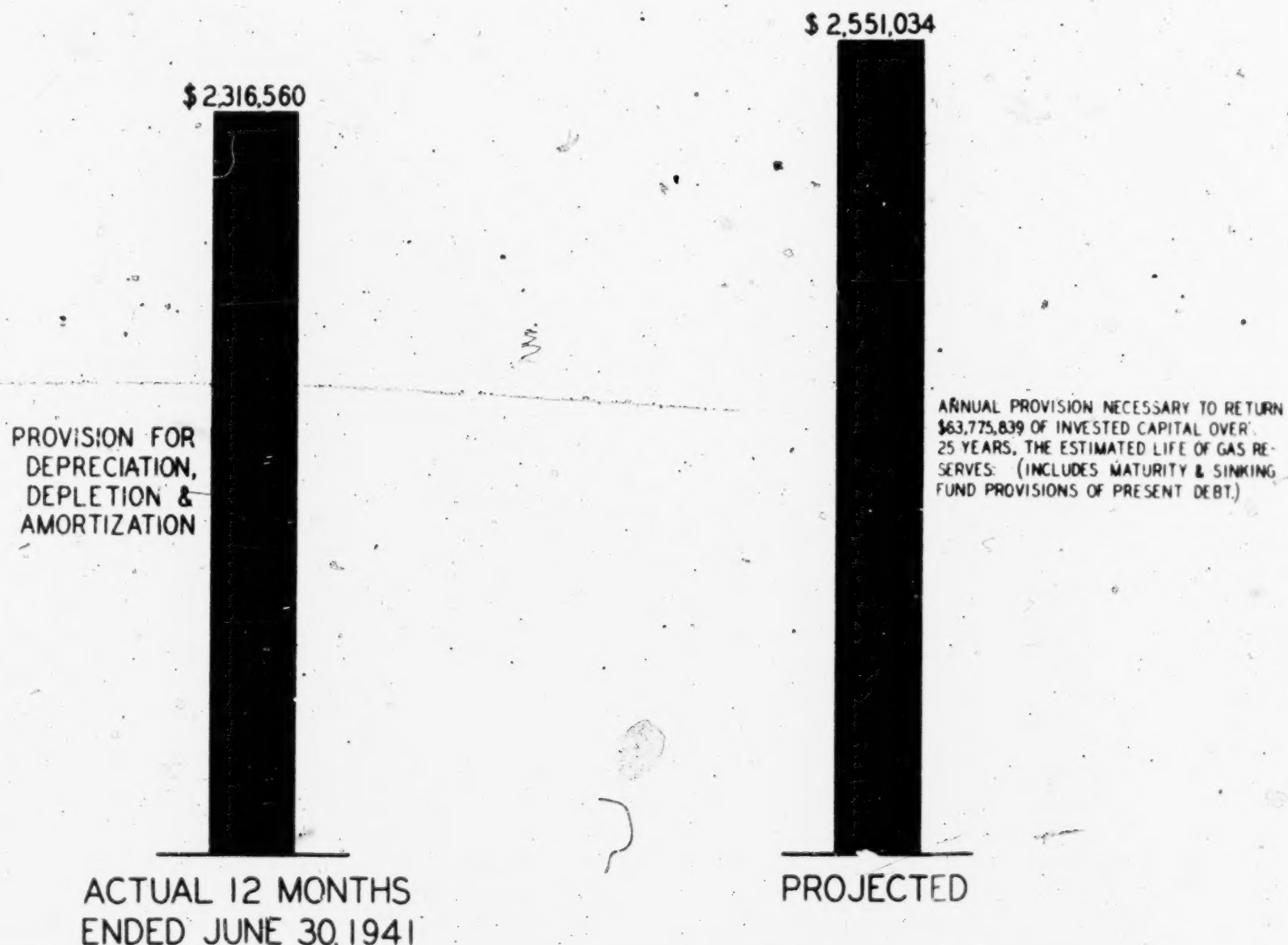
[fol. 13605] Dollars Needed Annually by Panhandle to  
Return Capital to Investors When Gas Reserves Are  
Exhausted.

In Chart No. 31, captioned "Dollars Needed Annually by Panhandle to Return Capital to Investors When Gas Reserves Are Exhausted," the right hand bar shows the actual amount charged to earnings as a provision for depreciation and depletion and amortization of gas purchase contracts—a total of \$2,316,560 for the twelve months ended June 30, 1941. This reserve of course represents the earmarking of a portion of earnings to cover the depreciation of the plant and amortization of other tangible and intangible assets over the period of their expected life.

I made no actual survey of the properties, nor do I question the adequacy or inadequacy of the annual provision for depreciation, depletion and amortization. However, in order to determine the dollar amount that would be necessary to return capital to investors when the company's reserves are exhausted, I accepted the assumption that the company's reserves would last for an additional 25 years as indicated by Mr. Ralph E. Davis in Registration Statement No. 2-4579, filed November 18, 1940, and computed by a straight line method the annual provision necessary to return \$63,775,839 of invested capital over such a period. On such basis, I arrived at the estimate of \$2,551,034 as the annual amount necessary to restore capital to investors when the reserves are exhausted. This amount, of course, includes maturity and sinking fund provisions of the present debt.

- CHART NO. 31 -

# DOLLARS NEEDED ANNUALLY BY PANHANDLE TO RETURN CAPITAL TO INVESTORS WHEN GAS RESERVES ARE EXHAUSTED



[fol. 13607] Dollars Needed Annually by Panhandle for  
Current Capital Requirements—Bonds

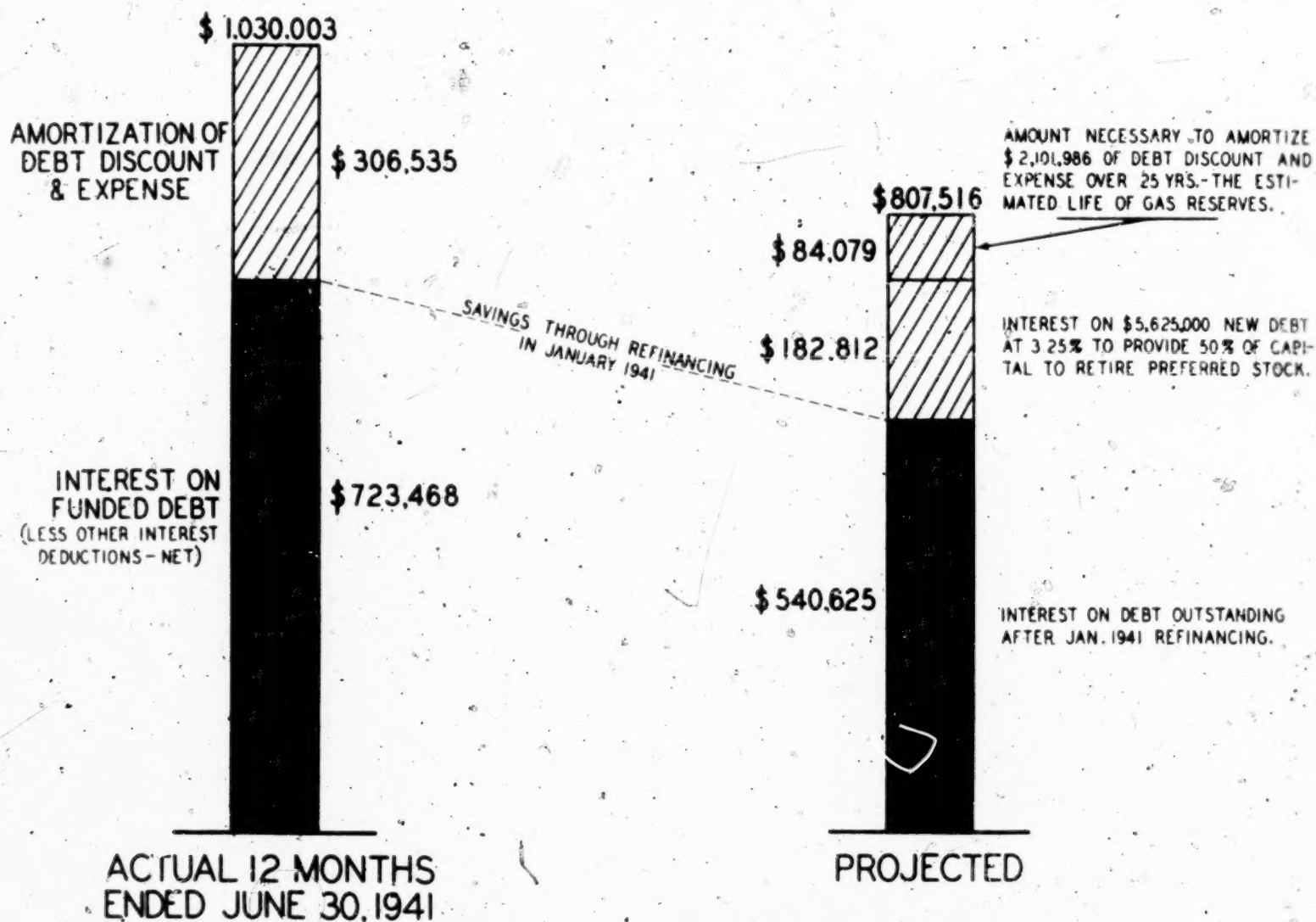
In Chart No. 32, captioned "Dollars Needed Annually by Panhandle for Current Capital Requirements—Bonds," the left hand bar shows actual figures for the 12 months ended June 30, 1941, of interest on funded debt (less other interest deductions—net) of \$723,468 and amortization of debt discount and expense of \$306,535,\* or a total capital requirement for bonds of \$1,030,003.

My projection of future capital requirements on bonds gave weight to the interest savings accomplished in the January, 1941, refinancing. I estimated annual interest requirements on the debt outstanding at \$545,625. I assumed further that the existing \$11,000,000 of preferred stock would be retired at prices of \$100 per share and \$125 per share respectively for the Class A and Class B preferred stock, or a total of \$11,250,000, and that such funds would be raised through the proceeds of \$5,625,000 of new debt sold on a 3.25% net yield basis and \$5,625,000 of new common stock.

I projected interest requirements on such additional debt at \$182,812. Having established the interest cost of bond capital, I investigated and found that the unamortized debt discount and expense on the books of the company was \$2,101,986 as of June 30, 1941. Again adopting the straight line method of amortizing such capital costs for 25 years, the estimated life of the company's reserves, I determined that the annual requirement for such purpose would be \$84,079, making a total projected amount of \$807,516 as the amount needed annually for current capital requirements on bonds. This estimate represented a substantial reduction from the \$1,030,003 actually shown for the 12 months ended June 30, 1940.

- CHART NO. 32 -

# DOLLARS NEEDED ANNUALLY BY PANHANDLE FOR CURRENT CAPITAL REQUIREMENTS — BONDS



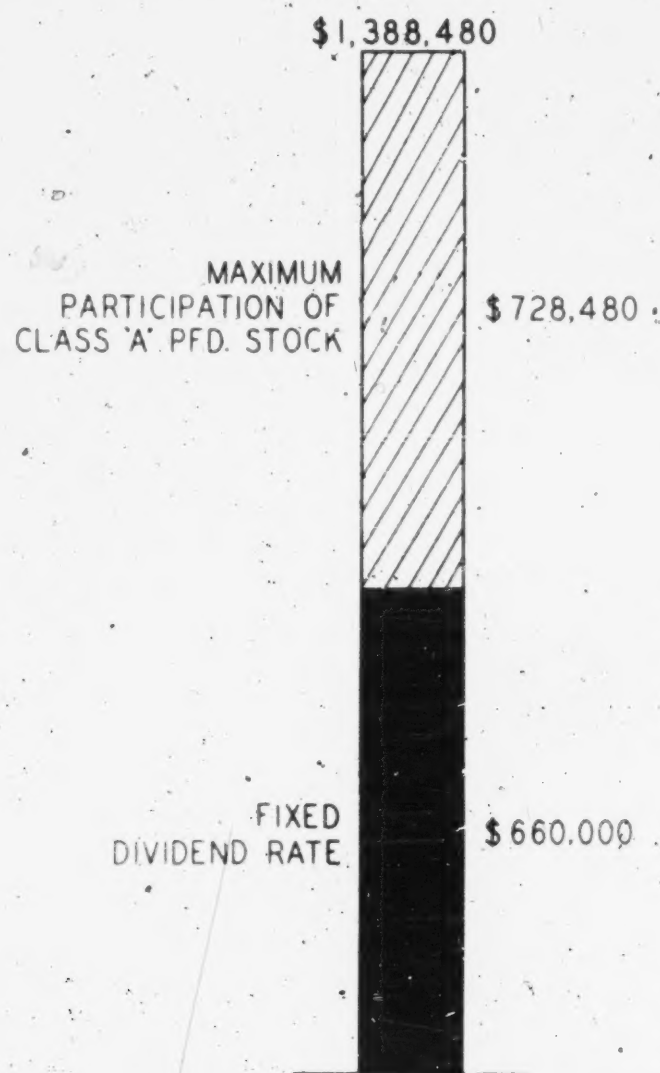
[fol: 13609] Dollars Needed Annually by Panhandle for  
Current Capital Requirements—Preferred Stock.

In Chart No. 33, captioned "Dollars Needed Annually by Panhandle for Current Capital Requirements—Preferred Stock," the left hand bar shows the dividend requirements and participation of the preferred stock as computed on the basis of earnings for the twelve months ended June 30, 1941. As shown, the fixed dividend rate on the 100,000 shares Class A preferred and the 10,000 shares Class B preferred stock total \$660,000. In addition, however, the Class A preferred stock carries a participating feature whereby after \$1.50 per share is paid on the common stock, any further dividends are distributed 25% to the Class A preferred stock and 75% to the common stock. The maximum participation of the Class A preferred stock on the basis of the net income as reported for the twelve months ended June 30, 1941, was computed at \$728,480. On such basis, the total earnings applicable to the preferred stock were \$1,388,480, as shown on the chart.

I have projected that the Panhandle Eastern Pipe Line Company will have no requirements for preferred stock in the future on the assumption that such stock will be retired with capital raised 50% by sale of additional debt and 50% by sale of additional common stock.

- CHART NO. 33 -

# DOLLARS NEEDED ANNUALLY BY PANHANDLE FOR CURRENT CAPITAL REQUIREMENTS - PREFERRED STOCK



ACTUAL 12 MONTHS  
ENDED JUNE 30, 1941

- NONE -

ASSUMING PREFERRED STOCK IS RETIRED WITH  
CAPITAL RAISED 50% BY SALE OF ADDITIONAL DEBT  
ON A 3.25% YIELD BASIS AND 50% BY SALE OF  
ADDITIONAL COMMON STOCK ON A 12.00% EARNINGS  
PRICE RATIO

PROJECTED

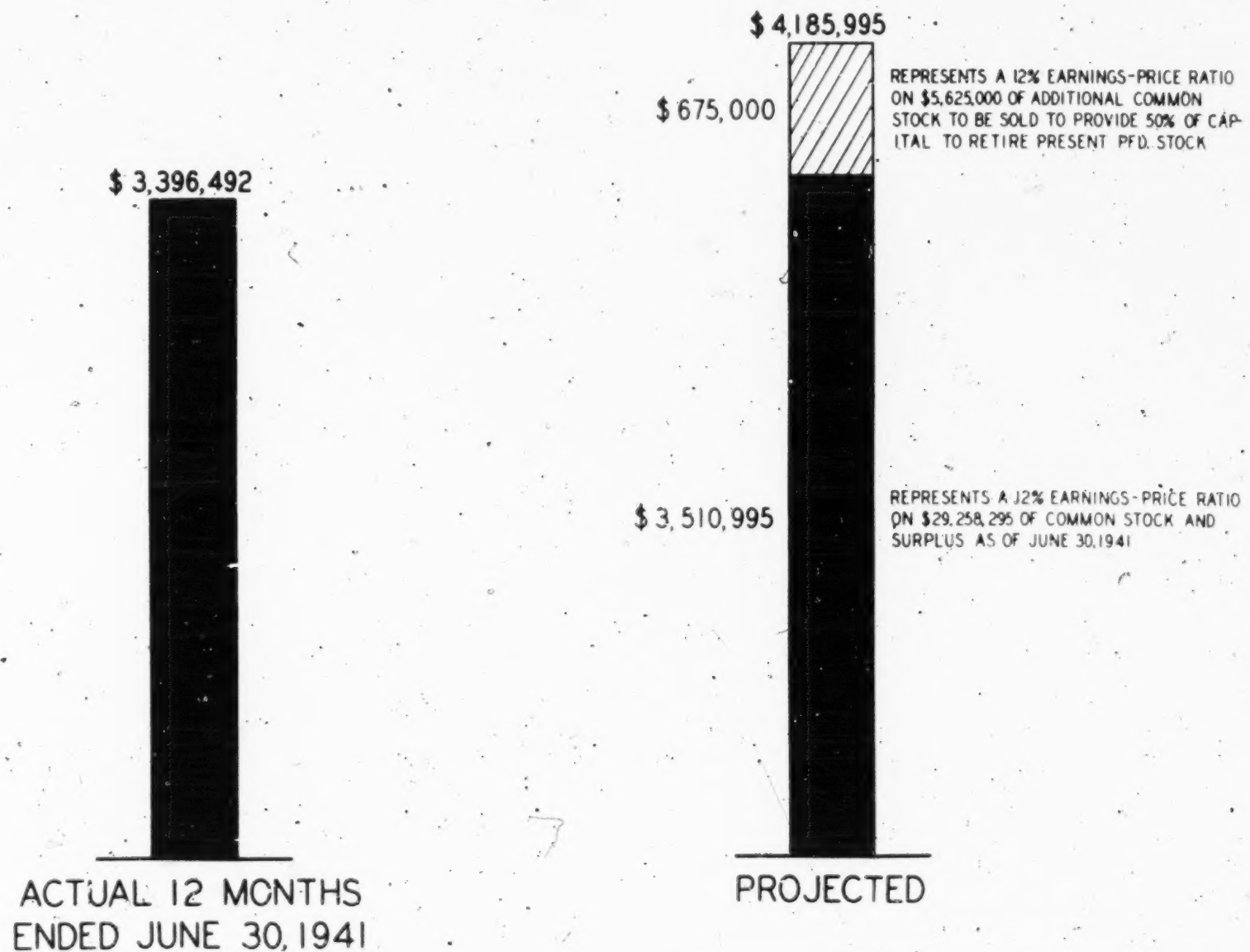
[Vol. 13611] Dollars Needed Annually by Panhandle for  
Current Capital Requirements—Common Stock.

In Chart No. 34, captioned "Dollars Needed Annually by Panhandle for Current Capital Requirements—Common Stock," the left hand bar shows that there was \$3,396,492 available for the common stock, after allowing for the maximum participation of the Class A preferred stock, in the twelve months ended June 30, 1941.

In the right hand bar I have projected the amount needed to cover capital requirements on the common stock for a reasonable period in the future. As shown in the chart, a 12% earnings-price ratio on \$29,358,295 of common stock and surplus as of June 30, 1941, will require earnings of \$3,510,995, a 12% earnings-price ratio on \$5,625,000 of additional common stock, which, it is assumed, will be sold to provide 50% of the capital to retire the present preferred stock, would require \$675,000. The total of these two amounts is \$4,185,995, which I estimate is the amount that will be needed to pay common dividends and provide a reasonable addition to surplus.

- CHART NO. 34 -

# DOLLARS NEEDED ANNUALLY BY PANHANDLE FOR CURRENT CAPITAL REQUIREMENTS - COMMON STOCK

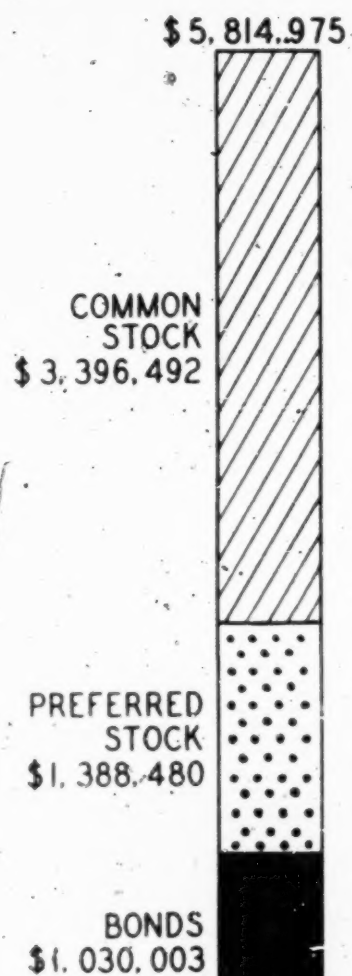


[fol. 13613] Dollars<sup>o</sup> Needed Annually by Panhandle for  
Total Current Capital Requirements—Total In-  
vested Capital.

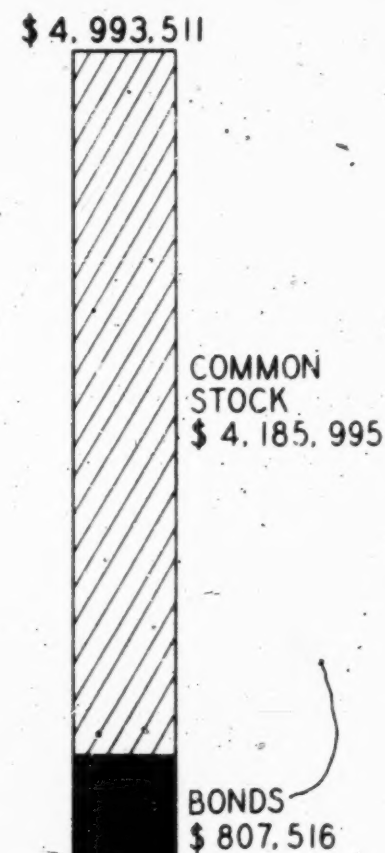
In Chart No. 35, captioned "Dollars Needed Annually by Panhandle for Total Current<sup>o</sup> Capital Requirements—Total Invested Capital," I have summarized the data from the preceding three charts. As shown in the left hand bar, the total dollars earned toward capital requirements in the twelve months ended June 30, 1941, were \$5,814,975. Of this amount, as has already been shown in preceding charts, \$1,030,003 was applicable to bonds, \$1,388,480 to preferred stock and \$3,396,492 to common stock. As shown in the right hand bar, the total dollars that I have projected as being needed by Panhandle Eastern Pipe Line Company for current capital requirements on the total invested capital is \$4,993,511, assuming that the present preferred stock is retired through the proceeds of the sale of additional bonds and common stock. The component estimates making up the total figure are \$807,516 for bonds and \$4,185,995 for common stock.

- CHART NO. 35 -

# DOLLARS NEEDED ANNUALLY BY PANHANDLE FOR TOTAL CURRENT CAPITAL REQUIREMENTS—TOTAL INVESTED CAPITAL



ACTUAL 12 MONTHS  
ENDED JUNE 30, 1941



PROJECTED

ASSUMING PRESENT PREFERRED STOCK IS RETIRED

[fol. 13615] Dollars Needed Annually by Panhandle to  
Provide Service to Customers, a Fair Return to  
Investors & Restore Invested Capital When Gas  
Reserves Are Exhausted—Based on Refinancing  
Preferred Stock

In Chart No. 36, captioned "Dollars Needed Annually by Panhandle to Provide Service to Customers, a Fair Return to Investors & Restore Invested Capital When Gas Reserves are Exhausted—Based on Refinancing Preferred Stock," I have added together all the amounts that will be needed by the Panhandle Eastern Pipe Line Company over a reasonable period in the future. The method of arriving at such dollar figures was covered in the comments on Charts No. 29 to 35, both inclusive.

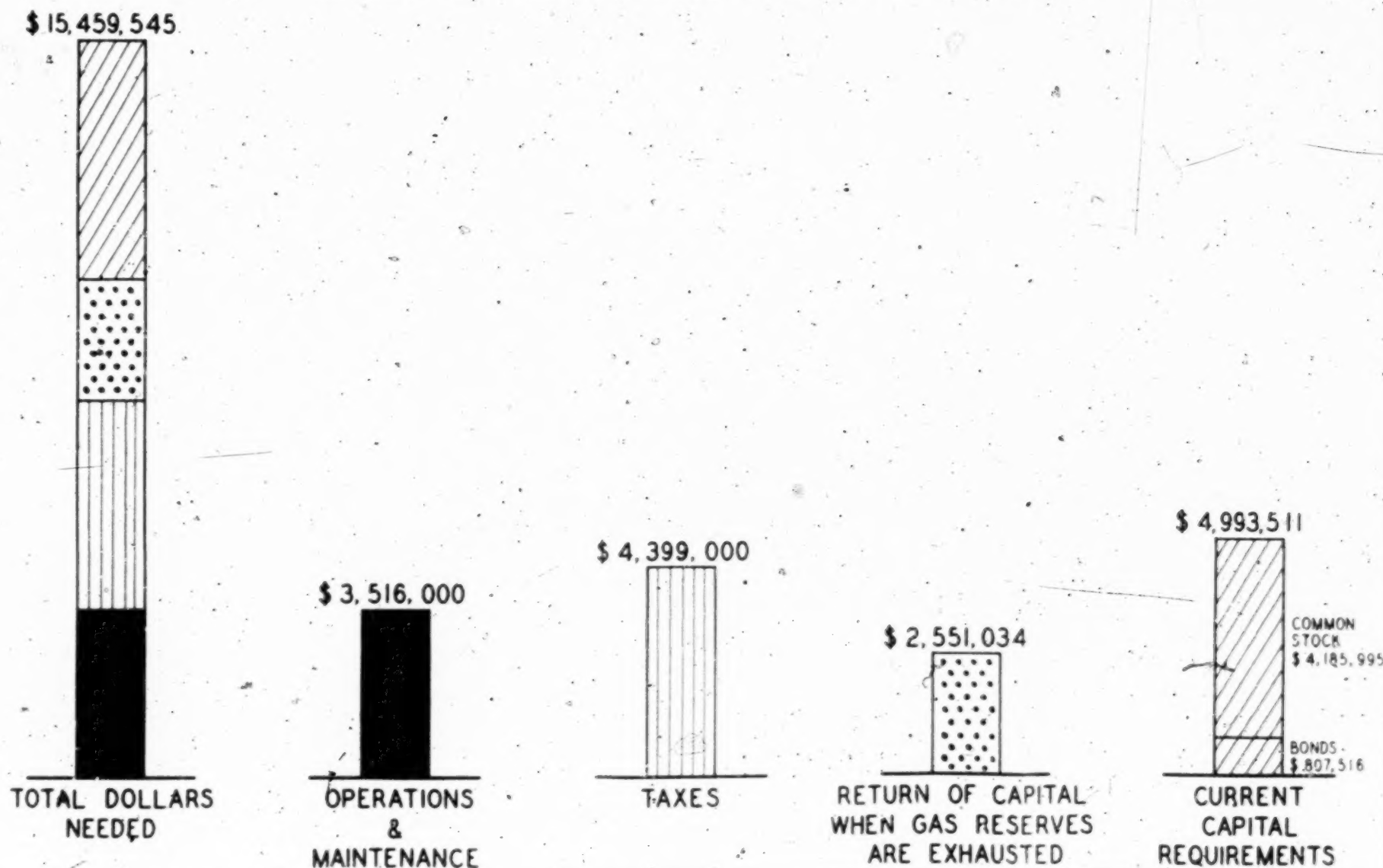
As shown on the accompanying chart, I feel that the company will require \$3,516,000 for operations and maintenance, \$4,399,000 for taxes, \$2,551,034 for the return of invested capital when gas reserves are exhausted and \$4,993,511 for current capital requirements on bonds and common stocks, giving effect to refinancing of the preferred stock.

The total of these amounts, as shown by the extreme left hand bar, is \$15,459,545, which represents the minimum number of dollars which, in my opinion, will be needed annually by the Panhandle Eastern Pipe Line Company to provide adequate service to customers, a fair return to investors and restore the invested capital when gas reserves are exhausted.

- CHART NO. 36 -

# DOLLARS NEEDED ANNUALLY BY PANHANDLE TO PROVIDE SERVICE TO CUSTOMERS, A FAIR RETURN TO INVESTORS & RESTORE INVESTED CAPITAL WHEN GAS RESERVES ARE EXHAUSTED

BASED ON REFINANCING PREFERRED STOCK



[fol. 13617] Dollars Needed Annually by Panhandle to  
Provide Service to Customers, a Fair Return to  
Investors & Restore Invested Capital When Gas  
Reserves Are Exhausted—Based on Present Capital  
Structure

In Chart No. 37, captioned "Dollars Needed Annually by Panhandle to Provide Service to Customers, a Fair Return to Investors & Restore Invested Capital When Gas Reserves Are Exhausted—Based on Present Capital Structure," I show the total amount of dollars that will be needed by the company if it is unable to consummate the refinancing of its preferred stock.

The amounts needed for operations and maintenance, and taxes, are exactly the same as shown on the preceding chart. The amount needed to return the invested capital when gas reserves are exhausted is slightly less at \$2,541,034 as compared with \$2,551,034. The reason for this slight reduction in requirements is that the present invested capital is slightly smaller than it would be if a refunding program were consummated owing to the fact that such program would call for the payment of a \$250,000 premium on Class B preferred stock.

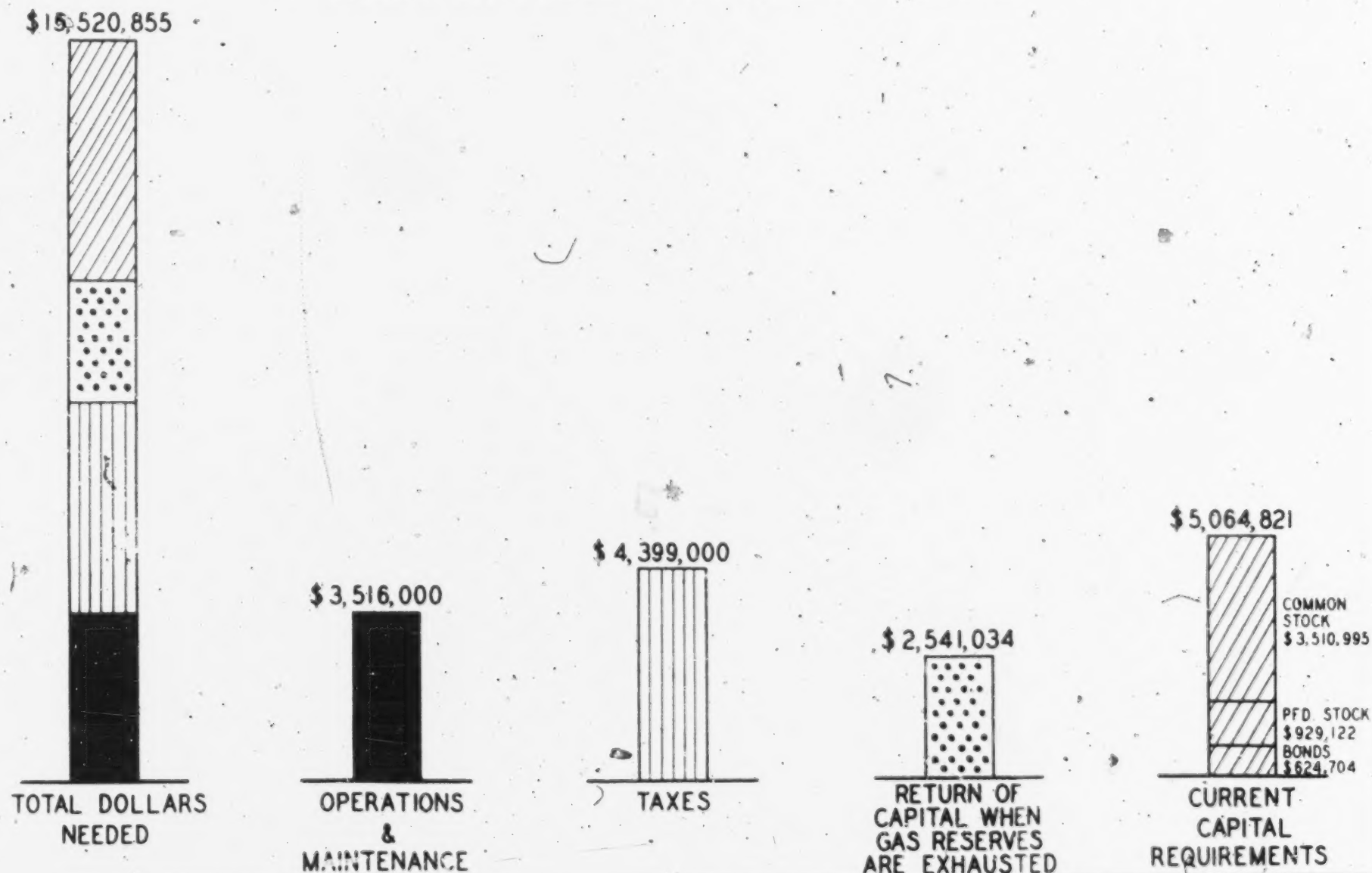
Current capital requirements on the basis of the present capital structure would total \$5,064,821. As shown on the Table for Chart No. 37 at the end of this report, such amount includes interest and amortization on the present debt of \$624,704, preferred dividend requirements of \$929,122 (including a participation for the Class A preferred stock computed on the basis of a \$2.50 annual dividend on 807,367 common shares) and \$3,510,995 required for the amount of common stock and surplus as of June 30, 1941 based on a 12% earnings-price ratio.

As shown in the accompanying chart, based on the present capital structure the Panhandle Eastern Pipe Line Company would require a total of \$15,520,855 annually to provide service to customers, a fair return to investors and restore invested capital when gas reserves are exhausted. This is slightly more than would be required if the present preferred stock is refunded.

- CHART NO. 37 -

DOLLARS NEEDED ANNUALLY BY PANHANDLE TO PROVIDE  
SERVICE TO CUSTOMERS, A FAIR RETURN TO INVESTORS &  
RESTORE INVESTED CAPITAL WHEN GAS RESERVES ARE EXHAUSTED

BASED ON PRESENT CAPITAL STRUCTURE



## GROWTH OF NATURAL GAS IN THE U. S. A.

FOR THE YEARS 1906 TO 1940, INCLUSIVE

	(1) Domestic and Commercial Customers	(2) Natural Gas Production (1000 M.C.F)
1906	834,018	388,843
1907	1,068,186	406,622
1908	1,177,973	402,141
1909	1,240,697	480,706
1910	1,345,989	509,155
1911	1,512,224	512,993
1912	1,637,493	562,203
1913	1,934,071	581,898
1914	2,090,985	591,867
1915	2,213,439	628,579
1916	2,380,772	753,170
1917	2,445,695	795,110
1918	2,525,124	721,001
1919	2,525,849	745,916
1920	2,635,968	798,210
1921	2,651,904	662,052
1922	3,014,600	762,546
1923	3,234,000	1,006,976
1924	3,443,000	1,141,521
1925	3,508,000	1,188,571
1926	3,731,000	1,313,019
1927	3,984,000	1,445,428
1928	4,344,000	1,568,139
1929	5,098,000	1,917,693
1930	5,448,000	1,943,421
1931	6,961,000	1,686,436
1932	7,037,000	1,555,990
1933	7,232,000	1,555,474
1934	7,566,000	1,770,721
1935	8,004,000	1,916,595
1936	8,674,000	2,167,602
1937	9,028,000	2,407,620
1938	9,265,000	2,295,562
1939	9,603,000	2,476,756
1940	Not Available	2,672,000

Source: (1) Moody's Public Utility Manual 1941 page a 42.

(2) U.S. Bureau of Mines - Minerals Yearbooks: 1937, p. 1062;  
1941, p. 1030.

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Table for Chart No. 3

## CONSUMPTION OF NATURAL GAS IN U. S. A.

FOR THE YEARS 1919-1940, INCLUSIVE

				(1)		(2)		(1)		(3)	
				In				In		P.R.B.	
				Relatives				Relatives		Index of	
				1935-39				1935-39		1935-39	
				= 100				= 100		= 100	
Domestic	Commercial	Domestic and Commercial	Miscellaneous Industrial	Total Domestic, Commercial and Misc. Ind.	Field Use	Carbon Black	Grand Total				
-----Thousand M.C.F.-----				-----Thousand M.C.F.-----							
1919		255,743	270,490	526,233	40.40	169,787	49,896	745,916	33.18	72	
1920		286,001	262,502	555,503	42.65	202,108	40,599	798,210	35.50	75	
1921		248,334	180,848	429,182	32.95	182,305	50,565	662,062	29.45	58	
1922		254,413	226,654	511,067	39.24	197,850	53,629	762,546	33.92	73	
1923		277,060	277,745	554,795	42.59	343,076	109,096	1,006,967	44.79	88	
1924		285,152	306,379	591,531	45.41	393,437	156,514	1,141,482	50.77	82	
1925		272,146	352,403	624,549	47.95	423,524	140,366	1,188,439	52.86	91	
1926		289,175	415,169	704,344	54.07	478,188	130,321	1,318,853	58.39	96	
1927		296,036	455,666	751,702	57.71	549,455	144,087	1,445,244	64.28	95	
1928		320,877	498,267	819,144	62.89	573,698	175,137	1,567,979	69.74	99	
1929		359,853	591,408	951,261	73.03	705,083	261,107	1,917,451	86.29	110	
1930	285,700	80,707	376,407	575,447	73.08	723,165	266,625	1,941,644	86.36	91	
1931	294,406	86,491	390,897	536,591	70.44	570,365	195,296	1,684,249	74.91	75	
1932	298,520	87,367	385,887	470,833	65.77	529,378	168,237	1,554,335	69.13	58	
1933	283,197	85,577	368,774	503,385	66.96	491,159	190,081	1,553,399	69.09	69	
1934	288,236	91,261	379,497	601,016	75.28	554,542	229,933	1,764,988	78.50	75	
1935	313,498	100,187	413,685	674,213	83.52	580,414	241,589	1,909,901	84.95	87	
1936	343,346	111,623	454,969	803,660	96.63	618,468	283,421	2,160,518	96.10	105	
1937	371,684	117,390	489,234	921,492	108.30	651,320	341,085	2,403,041	106.88	113	
1938	367,772	114,296	482,068	827,876	100.57	659,203	324,950	2,294,097	102.04	88	
1939	391,153	118,334	509,487	936,124	110.98	680,884	347,270	2,473,765	110.03	108	
1940	442,000	132,000	574,000	1,024,010	122.68	700,000	369,000	2,667,010	116.63	122	

Source: (1) Computed by Standard & Poor's Corporation.  
 (2) U. S. Bureau of Mines - Mineral Yearbooks.  
 (3) Standard Trade & Securities - Statistical Section.

Table for Chart No. 4

REVENUE FROM NATURAL GAS CONSUMED IN U.S.A.  
FOR THE YEARS 1919-1940 INCLUSIVE

				Total Dom. & Com. & Misc. Ind.	Field Use	Carbon Black	Total	Average Value Per M.C.F.	Total Dom. Com. Misc. Ind. & Field Use
	Domestic Commercial	Domestic & Commercial	Misc. Industrial						
----- In 1,000 Dollars -----									
1919		88,414	N/A	N/A	N/A	N/A	160,886	21.6	N/A
1920		109,302	N/A	N/A	N/A	N/A	195,194	24.6	N/A
1921		110,337	40,558	150,895	21,649	2,073	174,617	26.4	172,544
1922		126,902	65,255	192,157	27,444	1,934	221,535	29.1	219,601
1923		142,317	97,678	239,995			239,995	23.8	239,995
1924		154,075	72,236	226,311	27,519		253,830	22.2	253,830
1925		152,494	81,417	233,911	31,273		265,184	22.3	265,184
1926		168,870	94,536	263,406	36,650		300,056	22.9	300,056
1927		180,018	94,909	274,927	38,912	4,064	317,803	22.0	313,739
1928		198,806	102,146	300,954	58,356	4,321	363,631	23.2	359,310
1929		223,172	116,521	339,693	68,352	5,108	413,153	21.5	408,045
1930	200,615	38,588	239,173	111,226	350,399	59,118	415,519	21.4	409,517
1931	208,262	41,347	249,609	98,030	347,639	40,469	392,156	23.3	388,108
1932	223,377	44,000	267,377	81,868	348,645	32,585	384,123	24.7	381,230
1933	209,699	42,582	252,281	83,166	335,447	28,551	368,119	23.7	364,298
1934	215,029	45,287	260,316	101,569	361,885	28,356	394,257	22.3	390,241
1935	233,940	49,386	283,326	113,736	397,062	27,225	428,074	22.4	424,257
1936	251,627	53,693	305,310	138,051	443,361	28,397	475,439	22.0	471,758
1937	273,577	57,161	330,738	161,298	492,036	31,199	527,529	22.0	523,236
1938	273,070	56,247	329,317	138,713	468,030	29,628	500,550	21.8	497,658
1939	287,600	58,494	346,094	155,754	501,848	28,510	533,421	21.6	530,458
1940	322,660	64,944	387,604	N/A	N/A	N/A	590,626	22.1	N/A

Note: \* Included with Misc. Industrial figures.

Source: U. S. Bureau of Mines - Minerals Yearbooks.

Table for Chart No. 5

AVERAGE PRICES

AVERAGE REVENUE PER M.C.F. FROM NATURAL GAS CONSUMED IN U.S.A.  
AT POINTS OF CONSUMPTION

	<u>Domestic</u>	<u>Commercial</u>	<u>Domestic &amp; Commercial</u>	<u>Miscellaneous Industrial</u>	<u>Domestic, Commercial &amp; Misc. Industrial</u>	<u>Field Use</u>	<u>Carbon Black</u>	<u>Average of all Consumption</u>
	-----Cents per M.C.F.-----							
1929	N/A	N/A	62.0	19.7	35.7	9.7	1.9	21.5
1930	67.8	47.8	63.5	19.3	36.5	8.2	2.0	21.4
1931	70.7	47.8	65.5	18.5	37.9	7.1	2.3	23.3
1932	74.8	50.4	69.3	17.3	40.7	6.2	1.7	24.7
1933	74.0	49.8	66.4	16.5	38.5	5.9	2.0	23.7
1934	74.6	49.6	68.6	16.8	36.9	5.1	1.7	22.3
1935	74.6	49.3	68.5	16.8	36.5	4.7	1.6	22.4
1936	73.3	48.1	67.1	17.2	36.2	4.6	1.3	22.0
1937	73.6	48.7	67.6	17.5	34.9	4.8	1.3	21.9
1938	74.2	49.2	68.3	16.8	35.7	4.5	0.9	21.8
1939	73.5	49.4	67.9	16.6	34.7	4.2	0.9	21.6
1940	73.0	49.2	67.5	N/A	N/A	N/A	N/A	22.1

AVERAGE PRICE PER M.C.F. RECEIVED BY PANHANDLE EASTERN PIPE LINE COMPANY

	<u>Total Gas Sales M.C.F.</u>	<u>Gross Revenue</u>	<u>Cents per M.C.F.</u>
1934	13,697,649	2,844,935	21.09
1935	15,979,390	3,371,983	21.10
1936	26,747,031	5,815,682	21.74
1937	40,806,962	9,212,822	22.58
1938	41,185,762	9,540,968	23.17
1939	49,233,072	11,461,388	23.28
1940	56,394,742	13,167,242	23.35

Source - Compiled by Standard & Poor's Corp. from Moody's Public Utility Manual.

Table for Chart No. 6

PANHANDLE EASTERN PIPE LINE COMPANY  
NATURAL GAS SALES BY STATES  
FOR THE YEARS 1934 TO 1940, INCLUSIVE

	<u>Michigan</u>	<u>Illinois</u>	<u>Indiana and Ohio</u>	<u>Missouri</u>	<u>Texas Oklahoma &amp; Kansas</u>	<u>(1) Total</u>	<u>Industry Consumption excluding Field Use and Carbon black</u>
				<u>M.C.F.</u>			
1934	None	4,738,430	1,726,345	4,134,058	2,795,912	13,427,549	983,512,000
1935	None	5,598,548	2,369,654	4,785,546	2,924,942	15,679,390	1,087,898,000
1936	3,957,058	7,257,283	5,229,747	6,903,511	2,504,332	25,747,831	1,258,629,000
1937	15,969,598	7,554,821	7,639,485	7,276,270	2,366,754	40,806,962	1,410,638,000
1938	16,032,297	6,601,142	8,739,715	6,857,223	2,955,385	41,185,762	1,309,944,000
1939	18,391,954	7,398,928	12,463,121	8,009,919	2,479,149	49,233,072	1,445,611,000
1940	22,281,273	8,557,633	14,574,370	8,980,840	2,420,646	56,394,762	1,598,010,000

Note: \* Sales of gas in Ohio commenced in year 1939 and amounted to 150,018 M.C.F. for 1939 and 150,693 M.C.F. in 1940.

Sources: (1) S.E.C. Registration Statements, filed July 7, 1939 (page 5) and November 18, 1940 (amended) (page 7).

(2) Bureau of Mines - Minerals Yearbook.

## AND THE NATURAL GAS INDUSTRY

1934-1940 BOTH INCLUSIVE

	<u>Panhandle Eastern Pipe Line Co.</u>	<u>Cities Service Gas Co.</u>	<u>El Paso Natural Gas Co.</u>	<u>Interstate Natural Gas Co., Inc.</u>	<u>Memphis Natural Gas Co.</u>	<u>Mississippi River Fuel Corp.</u>	<u>Northern Natural Gas Co.</u>	<u>Southern Natural Gas Co.</u>	<u>Total Other Pipe Line Cos.</u>	<u>* Total Industry</u>
1934	3,048,516 (1)	12,074,448	2,029,770 (2)	3,777,198	1,726,392	3,674,780	6,401,623 (1)	3,307,973 (4)	32,992,184	361,885,000
1935	3,611,865	12,673,921	2,327,209 (2)	4,549,567	1,993,404	4,545,055	7,952,377 (1)	4,203,837 (4)	38,245,370	397,062,000
1936	6,037,868	14,195,519	3,234,197	5,275,337	2,389,943	5,576,618	9,037,906 (3)	5,650,083	45,359,603	443,361,000
1937	9,662,909	16,104,846	4,684,083	5,860,224	2,740,909	6,218,134	9,775,336 (3)	7,098,763	52,480,295	492,036,000
1938	9,907,129	16,432,397 (1)	4,923,900	5,561,494	2,780,307	5,230,670	9,859,978 (3)	6,899,348 (5)	51,788,094	468,030,000
1939	11,996,769	15,069,685	5,879,466	5,860,040	3,124,171	5,974,843	11,144,470 (3)	6,267,289 (5)	55,374,264	501,848,000
1940	13,536,453	17,425,302 (1)	6,380,311	6,469,792	3,230,883	6,799,470	12,857,003 (3)	9,932,889 (5)	63,115,650	N/A

- In Relatives 1934 = 100.

1934	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1935	118.48	104.96	114.65	120.45	115.47	123.58	124.82	127.08	115.92	109.72
1936	198.06	117.57	159.34	139.66	138.44	151.75	141.18	170.80	137.49	122.51
1937	316.97	133.38	230.77	155.15	158.77	169.21	152.70	214.54	159.07	135.96
1938	324.98	136.09	242.58	147.24	161.05	142.34	155.59	208.57	156.37	129.33
1939	393.53	124.81	289.66	155.14	180.97	162.73	174.87	249.92	167.84	136.68
1940	444.00	144.32	314.34	171.29	187.15	185.03	200.84	300.88	191.30	N/A

Source: Companies' annual reports except as indicated:

- (1) Woody's Public Utility Manual, 1941  
(2) S.E.C. Registration Statement, filed 1936 (Form A-2)  
(3) " " " " 1941 (Form A-2)  
(4) " " " " 1936 (Form A-1)  
(5) " " " " 1941 (Form A-2)  
(6) U.S. Bureau of Mines - Minerals Yearbook

Note: \* Represents value at points of consumption of natural gas sold to domestic, commercial and miscellaneous industrial consumers - (excluding gas consumed in field operations and in carbon-black manufacture).

OPERATING RATIO OF PANHANDLE EASTERN PIPE LINE COMPANY

COMPARED WITH OTHER PIPE LINE COMPANIES

EXCLUSIVE OF TAXES

1934 - 1940

	Panhandle Eastern Pipe Line Co.	Cities Service Gas Co.	El Paso Natural Gas Co.	Interstate Natural Gas Co., Inc.	Memphis Natural Gas Co.	Mississippi River Fuel Corp.	Northern Natural Gas Co.	Southern Natural Gas Co.	Total Other Pipe Line Cos.
-----Gross Revenues-----									
1934	3,046,516 (1)	12,074,446	2,029,770 (2)	3,777,186	1,726,392	3,674,780	6,401,623 (1)	3,307,873 (4)	32,892,164
1935	3,611,665	12,673,921	2,327,209 (2)	4,549,567	1,993,404	4,543,655	7,952,377 (1)	4,203,837 (4)	38,245,570
1936	6,037,866	14,195,514	3,234,187	5,275,337	2,349,943	5,276,618	9,037,806 (6)	5,650,063	49,389,603
1937	9,662,909	16,104,846	4,684,083	5,868,224	2,740,909	6,916,134	9,775,336 (3)	7,096,763	52,460,295
1938	9,807,128	16,432,389 (1)	4,923,800	5,561,494	2,760,307	5,230,570	9,359,978 (3)	6,849,348 (5)	51,788,094
1939	11,996,769	15,069,685	5,879,466	5,660,040	3,124,171	5,878,643	11,194,470 (3)	8,267,280 (5)	55,374,964
1940	13,536,453	17,425,362 (1)	6,380,311	6,469,792	3,230,653	6,799,470	12,657,903 (3)	9,952,809 (5)	63,115,650
-----Operating Expenses, Exclusive of Taxes-----									
1934	1,774,210 (1)	5,909,974	872,186 (2)	2,555,491	1,223,244	2,967,342	4,490,624 (1)	1,431,102 (4)	19,442,600
1935	1,632,606	5,634,661	1,061,163 (2)	2,863,916	1,538,000	3,185,710	4,990,624 (1)	1,815,973 (4)	21,179,667
1936	2,588,112	6,942,660	1,387,287	2,908,784	1,632,519	3,571,371	4,973,534 (3)	3,028,695	24,448,150
1937	3,998,876	8,162,517	1,969,125	2,704,296	1,794,160	3,979,125	5,099,621 (3)	3,742,784	27,447,629
1938	4,442,002	8,251,639 (1)	2,066,187	2,660,740	1,923,610	3,865,871	5,312,114 (3)	3,715,263 (5)	27,835,594
1939	4,898,910	7,462,663	2,475,929	2,957,674	2,260,536	4,387,030	5,732,667 (3)	4,376,336 (5)	29,543,635
1940	5,210,765	7,802,763 (1)	2,673,112	3,286,075	2,304,155	4,630,033	6,226,579 (3)	5,157,947 (5)	32,368,219
-----Operating Ratios-----									
1934	58.20%	48.95%	42.97%	67.66%	70.66%	80.75%	70.03%	43.26%	58.93%
1935	50.74	46.04	45.60	62.73	77.18	70.09	61.50	43.19	55.38
1936	42.66	48.91	42.69	55.14	68.31	64.04	55.03	53.60	53.69
1937	40.35	50.68	42.04	46.15	65.46	63.93	52.17	52.74	52.30
1938	44.84	50.22	41.96	48.20	69.58	74.29	53.33	53.28	53.75
1939	40.84	49.12	42.11	50.47	72.36	73.36	51.21	52.94	53.44
1940	38.50	44.76	41.90	50.62	71.33	72.51	46.45	51.62	51.23

Source: Companies' annual reports except as indicated.

- (1) Moody's Public Utility Manual, 1941  
(2) S.E.C. Registration Statement, filed 1936 (Form A-2)  
(3) " " " " 1941 ( " A-2)  
(4) " " " " 1936 ( " A-1)  
(5) " " " " 1941 ( " A-2)



Table for Chart No. 9

PANHANDLE EASTERN PIPE LINE COMPANYTREND OF REVENUE AND EXPENSES

	<u>Gross Revenues</u>	<u>Operating Expenses (Excluding Taxes)</u>	<u>Taxes</u>			<u>Total Taxes</u>	<u>Net Operating Income</u>
			<u>State, Local &amp; Misc. Federal</u>	<u>Federal Income</u>	<u>Federal Excess Profits</u>		
----- (IN DOLLARS) -----							
1934	3,048,818	1,774,810	270,204	-	-	270,204	1,004,104
1935	3,611,866	1,832,606	284,598	-	-	284,598	1,494,661
1936	6,037,868	2,688,138	360,294	230,000	-	590,294	2,889,441
1937	9,662,909	3,898,878	412,961	492,000	-	904,961	4,889,072
1938	9,907,129	4,442,002	577,688	513,426	-	1,091,314	4,373,813
1939	11,986,769	4,896,910	676,478	820,286	-	1,496,764	5,602,085
1940	13,536,453	5,210,766	812,872	1,436,698	561,000	2,810,470	5,714,216
----- (% OF GROSS REVENUE) -----							
1934	100.00%	58.20%				8.86%	32.94%
1935	100.00	50.74				7.88	41.38
1936	100.00	42.86				9.78	47.36
1937	100.00	40.36				9.37	50.28
1938	100.00	44.84				11.02	44.14
1939	100.00	40.84				12.47	46.69
1940	100.00	38.60				19.29	42.21

Source - 1934 figures from Moody's Public Utility Manual 1941  
subsequent years from Company's Annual Reports to Stockholders

PANHANDLE EASTERN PIPE LINE COMPANYPERCENT EARNED ON INVESTED CAPITAL (BASED UPON CAPITAL STRUCTURE)

	1934	1935	1936	1937	1938	1939	1940	Average 1934-1940
<u>Invested Capital Based upon Capital Structure</u>								
Debt:								
20 Year, S. F. Mtge. "A" 6s, 1950	19,400,000	18,200,000	17,589,000	-	-	-	-	7,884,143
Promissory Notes, 6s, 1950	9,891,000	9,891,000	-	-	-	-	-	2,826,000
Leasehold Purchase Obligations	90,896	-	-	-	62,864	41,436	30,149	32,120
1st Mtge. & 1st Lien "A" 4s, 1952	-	-	-	23,546,000	23,500,000	23,000,000	22,500,000	13,220,887
Bank loans, due 1939	-	-	-	2,000,000	2,000,000	-	-	571,429
Total Debt	29,381,896	28,091,000	17,589,000	25,546,000	25,562,864	23,041,436	22,530,149	24,534,549
Less: Debt Discount & Expense	1,601,091	1,406,666	1,267,226	3,173,861	2,854,208	2,639,362	2,229,323	2,153,109
Net Debt	27,780,804	26,684,334	16,321,774	22,372,139	22,708,656	20,402,074	20,300,826	22,381,440
Preferred Stock:								
\$6 Cum. Class A, Part. & Redeemable (No par)	-	-	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	7,142,857
\$6 Cum. Class B, Non-Part. & Non-Redeemable (No par)	-	-	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	714,286
Total Preferred Stock	-	-	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000	7,857,143
Common Stock & Surplus:								
Common Stock (No par)	1,199,000	1,199,000	18,216,300	18,216,300	18,216,300	20,184,175	20,184,175	13,916,464
Capital Surplus	19,286,867	18,582,642	46,365	3,782,817	46,365	-	-	5,260,622
Earned Surplus	(3,354,773)	(3,797,090)	1,872,455	-	4,289,364	6,860,428	7,922,967	1,941,906
Total Common Stock & Surplus	17,130,094	15,984,552	19,935,120	21,979,117	22,552,029	27,044,603	28,107,142	21,818,994
Total Invested Capital	44,910,898	42,668,886	47,256,894	55,351,256	55,260,685	58,546,677	59,407,968	52,067,577
Net Operating Income	1,004,104	1,414,661	2,859,441	4,859,072	4,373,813	5,602,095	5,714,218	3,701,068
Percent Earned on Invested Capital	2.24%	3.50%	6.05%	8.78%	7.77%	9.57%	9.62%	7.11%

Source - 1934 figures from Moody's Public Utility Manual 1941.  
Subsequent years from Company's Annual Report to Stockholders.

## PANHANDLE EASTERN PIPE LINE COMPANY

## PERCENT EARNED ON INVESTED CAPITAL (BASED UPON NET PROPERTY, INTANGIBLES AND WORKING CAPITAL)

	(1) 1934	(1) 1935	(2) 1936	(2) 1937	(2) 1938	(2) 1939	(2) 1940	Average 1934-1940
Invested Capital Based upon Net Property Account, Intangibles and Working Capital								
Property, Plant and Equipment:	42,562,757	42,350,377	46,643,078	58,060,015	56,547,870	59,479,728	64,354,956	53,214,112
Less: Retirement, Renewal, Depreciation & Amortization Reserves	1,915,871	2,560,560	3,296,640	4,104,966	5,736,427	7,596,278	9,189,501	4,914,605
Net Property, Plant and Equipment	40,646,886	39,789,817	43,346,438	53,955,049	52,811,443	51,883,450	55,165,455	48,299,507
Intangibles (Gas Sales & Purchase Contracts)	3,053,392	3,266,092	3,516,175	2,917,171	2,666,927	2,358,653	2,051,434	2,833,221
Working Capital:								
Current Assets	1,250,627	1,545,360	2,110,052	2,764,217	2,675,261	6,919,327	6,377,003	3,235,979
Less: Current Liabilities	1,335,464	1,921,687	1,696,970	4,158,583	1,694,977	2,105,892	5,171,906	2,297,925
Net Working Capital	( 74,837 )	( 376,327 )	413,082	( 1,394,366 )	980,284	4,813,435	2,205,097	938,052
Total Invested Capital	43,625,441	42,681,582	47,265,695	55,477,864	56,458,654	59,053,538	59,921,986	52,070,680
Net Operating Income	1,004,104	1,494,661	2,859,441	4,859,072	4,373,813	5,602,095	5,714,218	3,701,058
Percent Earned on Invested Capital	2.30%	3.50%	6.05%	8.76%	7.75%	9.49%	9.54%	7.11%

Sources: (1) Moody's Public Utility Manual 1941.  
(2) Company's Annual Reports.

Parentheses indicate red figures.

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Table for Chart No. 12

## PANHANDLE EASTERN PIPE LINE COMPANY

RETURN TO COMMON STOCKHOLDERS 1934 TO 1940 BOTH INCLUSIVE

	1934	1935	1936	1937	1938	1939	1940	Average 1934-1940
Common Stock	1,198,000	1,199,000	18,216,300	18,216,300	18,216,300	20,184,175	20,184,175	13,916,484
Plus, Capital and Earned	15,31,094	14,786,852	1,718,820	3,782,817	4,335,728	5,860,428	7,922,967	7,902,530
Total Common Stock and Surplus	17,110,094	15,984,852	19,935,120	21,979,117	22,552,028	27,044,603	28,107,142	21,819,014
Dividend Return to Common Stock	None	None	None	364,328	1,659,457	1,134,236	2,427,051	794,026
Return on Book Value of Common Stock and Surplus	None	None	None	1.66%	7.27%	4.19%	8.62%	3.64%

If this amount, \$1,211,051 was paid on January 11, 1940 to holders of record January 19, 1940 as a special dividend out of 1939 earnings. If this amount is included in 1939 the % return would be 8.66% for that year and 4.31% for 1940.

NOTE: Data for 1934 and 1935 taken from Goody's Public Utility Manuals; subsequent years, from published annual reports.

Table for Chart No. 13

PANHANDLE EASTERN PIPE LINE COMPANYCONSOLIDATED STATEMENT OF PROFIT & LOSS FOR THE 12 MONTHS ENDED JUNE 30, 1941

	As reported by Company	As adjusted by S. & P. Corp. to Estimate Federal Taxes at rates levied in Revenue Act of 1941
Gross Revenues	14,336,448	14,336,448
Operating Expenses (excluding taxes):		
Operations	2,902,352	2,902,352
Maintenance	294,444	294,444
Provision for Depreciation, Depletion and Amortization	2,316,560	2,316,560
Total Operating Expenses (excluding taxes)	5,513,356	5,513,356
Net Operating Income (Before Taxes and Fixed Charges)	8,823,092	8,823,092
Taxes:		
State, Local and Miscellaneous Federal	649,017	649,017
Federal Normal Income and Surtax	(A) 1,802,200	(B) 1,485,000
Federal Excess Profits	(A) 758,900	(B) 1,878,000
Total Taxes	3,008,117	4,012,017
Net Operating Income (After Taxes and Before Fixed Charges)	5,814,975	4,811,075
Fixed Charges:		
Interest on Funded Debt	751,924	751,924
Other Interest Deductions (net)	(28,456)	(28,456)
Amortization of Debt Discount and Expense	306,535	306,535
Total Fixed Charges	1,030,004	1,030,004
Net Income	4,784,971	3,781,071

Notes: (A) Computed without regard to special deductions resulting from the refinancing consummated during February 1941 and without making provision for possible increases in rates or otherwise during 1941.  
 (B) Computed without regard to special deductions resulting from the refinancing consummated during February 1941 but allowing for Federal Income, surtax and excess profits tax at rates levied in Revenue Act of 1941.

Parentheses indicate red figures.

Sources: Company's Report of June 30, 1941.

Estimated Figures by Standard & Poor's Corp.

Table for Chart No. 14

PANHANDLE EASTERN PIPE LINE COMPANYPERCENT EARNED ON INVESTED CAPITAL - 12 MONTHS ENDED JUNE 30 1941

	As of June 30 1941
<u>Invested Capital based on Net Property, Intangibles and Working Capital</u>	
Net Property:	
Property, Plant and Equipment	64,826,108
Less - Retirement renewal, depreciation and amortization reserves	10,135,514
Net Property	54,690,594
Working Capital:	
Current assets	9,810,986
Current liabilities	5,149,111
Net working capital	4,661,875
Intangibles:	
Gas Sales and Purchase Contracts	1,863,565
Total Invested Capital	61,216,031
<u>Net Operating Income* (12 months ended June 30 1941)</u>	
Based on Federal Income and Excess Profits Tax computed at rates levied by Second Revenue Act of 1940	5,814,975
Based on Federal Income and Excess Profits Tax computed at rates levied by Revenue Act of 1941	4,811,073
<u>Percent Earned on Invested Capital</u>	
Based on Earnings computed with taxes at 1940 rates	9.50%
Based on Earnings computed with taxes at 1941 rates	7.86%
* Does not give effect to special non-recurring deductions allowable as a result of refinancing in February 1941.	
Source: Company's Report of June 30 1941.	
Estimated figure by Standard & Poor's Corp.	

Table for Chart No. 15

PANHANDLE EASTERN PIPE LINE COMPANYPERCENT EARNED ON INVESTED CAPITAL IN THE TWELVE MONTHS ENDED JUNE 30 1941

	As of June 30 1941
<u>Invested Capital based upon Capital Structure</u>	
Debt:	
1st Mtg & 1st Lien S.P. "B" 3's, 1930	12,000,000
1st Mtg & Trust Lien "A" 1.65-2.50%, 1940-50	5,250,000
Serial Notes "A", "B", "C" & "D" 3.75-1.50%, 1942-45	5,000,000
Other Long-term Debt	17,544
Total Debt	23,267,544
Less - Debt discount and expense	2,101,986
Net Debt	21,165,558
Preferred Stock - \$5 Cumulative (no par):	
Class A - participating and redeemable	10,000,000
Class B - nonparticipating and nonredeemable	1,000,000
Total Preferred Stock	11,000,000
Common Stock and Surplus:	
Common stock (no par)	20,184,175
Earned surplus	9,074,120
Total Common Stock and Surplus	29,258,295
Total Invested Capital	61,423,853
• NET OPERATING INCOME (12 months ended June 30 1941):	
Based upon Federal Income and Excess Profits Taxes computed at rates levied by Second Revenue Act of 1940	5,814,975
Based upon Federal Income and Excess Profits Taxes computed at rates levied by Revenue Act of 1941	4,811,075
PERCENT EARNED ON INVESTED CAPITAL:	
Based upon Earnings computed with Taxes at 1940 rates	9.47%
Based upon Earnings computed with Taxes at 1941 rates	7.83%

NOTES: (\*) Does not give effect to special non-recurring deductions allowable as a result of refinancing in February 1941.

Sources: Company's Report of June 30 1941.  
Estimated figures by Standard & Poor's Corp.

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Table for Chart No. 16  
Page 1 of 2PANHANDLE EASTERN LIFE LINE COMPANYCOMPUTATION OF WEIGHTED AVERAGE COST RATIO OF ALLBOND ISSUES 1930 - JUNE 30, 1941

<u>Year</u>	<u>Average Rate</u>	<u>Weight</u>	<u>Weighted Percent</u>
1930	7.20	1	7.20
1931	5.86	2	11.72
1932	6.80	3	20.40
1933	6.79	4	27.16
1934	6.79	5	33.95
1935	6.78	6	40.68
1936	7.20	7	50.40
1937	4.66	8	37.28
1938	4.66	9	41.94
1939	4.66	10	46.60
1940	4.66	11	51.26
1941	2.71	12	32.52
<u>Total</u>		<u>76</u>	<u>403.47</u>
Average Percent			<u>5.17</u>

Source: Compiled by Standard and Poor's Corp. from data  
appearing in Moody's Manuals, Company's  
published Annual Reports and Bond Indentures.

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Table for Chart No. 16  
Page 2 of 5

PANHANDLE EASTERN PIPE LINE COMPANY,  
INDICATED CAPITAL COSTS ON ALL BOND ISSUES

1930 - 1940

	Yield to Maturity Based Upon Net Price to Co.	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940
<u>Bonds Outstanding December 31</u>												
20 Yr. S.P. Mtge. Gold Series A's, 1950	7.20	20,000,000	20,000,000	20,000,000	19,400,000	19,400,000	18,200,000	17,589,000				
6 1/2% Promissory Notes, due 1950	6.00		7,920,000	9,891,000	9,891,000	9,891,000	9,891,000					
6 1/2% Promissory Notes	6.00											
1st Mtge. & 1st Lien Series A S.P. A's, 1952	4.86											
								23,546,000	23,500,000	23,000,000	22,500,000	
Total		20,000,000	27,920,000	29,891,000	29,291,000	29,291,000	28,091,000	17,589,000	23,546,000	23,500,000	23,000,000	22,500,000
<u>Annual Interest Requirement Based on Yield to Maturity</u>												
20 Yr. S.P. Mtge. Gold Series A A's, 1950		1,440,000	1,440,000	1,440,000	1,396,800	1,396,800	1,310,400	1,266,408				
6 1/2% Promissory Notes, due 1950			475,200	593,460	593,460	593,460	593,460					
6 1/2% Promissory Notes												
1st Mtge. & 1st Lien Series A S.P. A's, 1952												
									1,097,244	1,095,100	1,071,800	1,048,500
Total		1,440,000	1,915,200	2,033,460	1,990,260	1,990,260	1,903,860	1,266,408	1,097,244	1,095,100	1,071,800	1,048,500
<u>Average Cost of Capital</u>												
		7.20%	6.86%	6.80%	6.79%	6.79%	6.78%	7.20%	4.66%	4.66%	4.66%	4.66%

Sources: Compiled by Standard & Poor's Corp. from data appearing in Moody's Manuals, Company's Published Annual Reports and Mortgage Trust Indentures.

PANHANDLE EASTERN LIFE LINE COMPANY

PROJECTION OF AVERAGE INTEREST COST, DEBT RETIREMENT AND AMOUNTS  
TO BE OUTSTANDING OF DEBT ISSUED IN THE 1941 REFINANCING

Issue	Interest Rate	Scheduled Pmt. Amount	Retirement date Nov. 1	Effective Yield		Funds available to Company			Total Cost of Capital Based on Effective Yield Rate	Schedule of Debt Retirements		Schedule of Outstanding Debt as of Nov. 1	
				Price on which Based	Rate	Amount	Length of Time	Equivalent Amount for 1 year		Amount due on Nov. 1 to Company	Maturity Yield based on Price of Company		
1st Mtn & 1st Lien B SF 3d, 1960	3.00%	1,200,000	1951	99.02	3.11%	1,188,240	11 yrs.	13,070,840	408,497	1941		23,250,000	
		1,200,000	1952		3.10	1,188,240	12	14,258,880	442,025	1942	1,250,000	22,000,000	
		1,200,000	1953		3.09	1,188,240	13	15,447,120	477,318	1943	"	20,750,000	
		1,200,000	1954		3.09	1,188,240	14	16,635,360	514,035	1944	"	19,500,000	
		1,200,000	1955		3.08	1,188,240	15	17,823,600	548,967	1945	"	18,250,000	
		1,200,000	1956		3.08	1,188,240	16	19,011,840	585,565	1946	"	17,000,000	
		1,200,000	1957		3.07	1,188,240	17	20,200,080	620,142	1947	"	15,750,000	
		1,200,000	1958		3.07	1,188,240	18	21,388,320	656,621	1948	"	14,500,000	
		1,200,000	1959		3.07	1,188,240	19	22,576,560	693,100	1949	"	13,250,000	
		1,200,000	1960		3.07	1,188,240	20	23,764,800	729,579	1950	"	12,000,000	
											1951	1,250,000	10,800,000
											1952	"	9,600,000
											1953	"	8,400,000
											1954	"	7,200,000
Average Annual Interest Cost of above issue								3.08%					
1st Mtn & 1st Lien A 1.65 & 3.00% due 1946 to 1960	1.65%	1,250,000	1946	100	1.65%	1,250,000	6 yrs.	7,500,000	123,750	1946		2,000,000	
	1.85	1,250,000	1947		1.85	1,250,000	7	8,750,000	261,875			1,800,000	
	2.00	1,250,000	1948		2.00	1,250,000	8	10,000,000	300,000			1,600,000	
	2.15	1,250,000	1949		2.15	1,250,000	9	11,250,000	341,875			1,400,000	
	2.30	1,250,000	1950		2.30	1,250,000	10	12,500,000	387,500			1,200,000	
Serial Notes 0.75% to 1.60% due 1942 to 1945													
0.75%	1,250,000	1942	100	0.75%	1,250,000	2	2,500,000	10,750					
1.00	1,250,000	1943		1.00	1,250,000	3	3,750,000	32,500					
1.25	1,250,000	1944		1.25	1,250,000	4	5,000,000	62,500					
1.50	1,250,000	1945		1.50	1,250,000	5	6,250,000	93,750					
Average Annual Interest Cost of Long Term Capital								2.74%					

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Table for Chart No. 16  
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## PANHANDLE EASTERN PIPE LINE COMPANY

COST OF FINANCING AS INDICATED BY SALE OF \$20,000,000 TWENTY-YEAR SINKING FUND  
MORTGAGE GOVERNMENT BONDS SERIES A, 6'S, DUE OCTOBER 1, 1960

DATE SOLD - OCT. 1, 1930 - PRICE RECEIVED 90.

SINKING FUND: DESIGNED TO RETIRE \$300,000 PAR AMOUNT SEMI-ANNUALLY @ 105 FROM FEB. 18, 1933  
TO AND INCLUDING AUG. 21, 1945, AND THE SAME PAR AMOUNT THEREAFTER AT PRICES OF 104  
FOR 1946, 103 FOR 1947, 102 FOR 1948, 101 FOR 1949, AND 100 FOR 1950

Scheduled Retirements				Funds Available to Company			Total Cost of Capital Based on Effective Yield Rate
Par Amount	Date	Price	Effective Yield Rate Based upon Price of 90.	Amount	Length of Time	Equivalent Amount for 1 yr.	
1	2	3	4	5	6	7-6x6	8-7x4
300,000	Apr. 1, 1933	105	12.88%	270,000	2 1/2 yrs.	675,000	84,918
300,000	Oct. 1, 1933	105	11.47	270,000	3	810,000	92,907
300,000	Apr. 1, 1934	105	10.73	270,000	3 1/2	945,000	101,399
300,000	Oct. 1, 1934	105	10.12	270,000	4	1,080,000	109,620
300,000	Apr. 1, 1935	105	9.71	270,000	4 1/2	1,215,000	117,977
300,000	Oct. 1, 1935	105	9.38	270,000	5	1,350,000	126,360
300,000	Apr. 1, 1936	105	9.07	270,000	5 1/2	1,485,000	134,690
300,000	Oct. 1, 1936	105	8.83	270,000	6	1,620,000	143,045
300,000	Apr. 1, 1937	105	8.63	270,000	6 1/2	1,755,000	151,457
300,000	Oct. 1, 1937	105	8.46	270,000	7	1,890,000	159,894
300,000	Apr. 1, 1938	105	8.31	270,000	7 1/2	2,025,000	168,378
300,000	Oct. 1, 1938	105	8.18	270,000	8	2,160,000	176,888
300,000	Apr. 1, 1939	105	8.07	270,000	8 1/2	2,295,000	185,407
300,000	Oct. 1, 1939	105	7.97	270,000	9	2,430,000	193,871
300,000	Apr. 1, 1940	105	7.88	270,000	9 1/2	2,565,000	202,192
300,000	Oct. 1, 1940	105	7.80	270,000	10	2,700,000	210,600
300,000	Apr. 1, 1941	105	7.73	270,000	10 1/2	2,835,000	219,146
300,000	Oct. 1, 1941	105	7.66	270,000	11	2,970,000	227,502
300,000	Apr. 1, 1942	105	7.60	270,000	11 1/2	3,105,000	235,986
300,000	Oct. 1, 1942	105	7.54	270,000	12	3,240,000	244,296
300,000	Apr. 1, 1943	105	7.49	270,000	12 1/2	3,375,000	252,788
300,000	Oct. 1, 1943	105	7.45	270,000	13	3,510,000	261,495
300,000	Apr. 1, 1944	105	7.41	270,000	13 1/2	3,645,000	270,091
300,000	Oct. 1, 1944	105	7.37	270,000	14	3,780,000	278,866
300,000	Apr. 1, 1945	105	7.33	270,000	14 1/2	3,915,000	286,970
300,000	Oct. 1, 1945	105	7.30	270,000	15	4,050,000	295,650
300,000	Apr. 1, 1946	104	7.23	270,000	15 1/2	4,185,000	302,576
300,000	Oct. 1, 1946	104	7.20	270,000	16	4,320,000	311,040
300,000	Apr. 1, 1947	103	7.14	270,000	16 1/2	4,455,000	318,027
300,000	Oct. 1, 1947	103	7.12	270,000	17	4,590,000	326,508
300,000	Apr. 1, 1948	102	7.06	270,000	17 1/2	4,725,000	333,865
300,000	Oct. 1, 1948	102	7.03	270,000	18	4,860,000	342,630
300,000	Apr. 1, 1949	101	7.00	270,000	18 1/2	4,995,000	349,650
300,000	Oct. 1, 1949	101	6.98	270,000	19	5,130,000	358,074
300,000	Apr. 1, 1950	100	6.94	270,000	19 1/2	5,265,000	366,391
300,000	Oct. 1, 1950	100	6.95	270,000	20	5,400,000	374,910
9,000,000				8,550,000		171,000,000	11,850,300
Totals 20,000,000				18,000,000		274,950,000	19,789,480

Average Cost of Financing ..... 7.25%

Source: Compiled by Standard &amp; Poor's Corp. from data contained in the Mortgage Trust Indenture.

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Table for Chart No. 16  
Page 5 of 5

## PANHANDLE EASTERN PIPE LINE COMPANY

COST OF FINANCING AS INDICATED BY SALE OF \$24,000,000 FIRST MORTGAGE  
AND FIRST LIEN SERIES G, S.P. 4'S, 1952

DATE SOLD MARCH 1, 1937 - PRICE RECEIVED 95.02 - SINKING FUND: SEE \* BELOW

Date 2/20	Carry Over From Previous Year	Contri- bution Flat Payment	Scheduled Retirements			Effective Yield Rate Based on Price of 95.02	Funds Available to Company			Total Cost of Capital Based on Effective Yield Rate		
			Based on Interest	Total	Par Amount		Date 3/1	Retired to Date Since 1/1/41	Amount		Length of Time	Equivalent Amount for 1 yr.
	1-4-5	2	3	4	5	6	7	8	9	10	11-9x10	12-11x8
1938	-	500,000	-	500,000	500,000	1938	-	9.33%	475,100	1 yr.	475,100	44,327
1939	-	500,000	-	500,000	500,000	1939	-	6.70	475,100	2	950,200	63,663
1940	-	500,000	-	500,000	500,000	1940	-	5.83	475,100	3	1,425,300	83,095
1941	-	1,498,000	-	1,498,000	1,498,000	1941	1,498,000	5.40	1,423,400	4	5,693,600	307,454
1942	-	1,498,000	59,920	1,557,920	1,557,000	1942	3,055,000	5.14	1,479,461	5	7,397,305	360,221
1943	920	1,498,000	122,800	1,621,120	1,621,000	1943	4,676,000	4.97	1,540,274	6	9,241,644	459,310
1944	120	1,498,000	187,040	1,685,160	1,685,000	1944	6,361,000	4.85	1,601,087	7	11,207,609	543,569
1945	160	1,498,000	254,440	1,752,600	1,752,000	1945	8,113,000	4.76	1,664,750	8	13,318,000	633,937
1946	600	1,498,000	324,520	1,823,120	1,823,000	1946	9,938,000	4.68	1,732,215	9	15,569,935	729,609
1947	120	1,498,000	397,440	1,895,560	1,895,000	1947	11,831,000	4.63	1,800,629	10	18,004,290	833,551
1948	560	1,498,000	473,240	1,971,800	1,971,000	1948	13,802,000	4.58	1,872,844	11	20,601,284	943,539
1949	800	1,498,000	552,080	2,060,880	2,060,000	1949	15,852,000	4.54	1,947,910	12	23,374,920	1,061,221
1950	880	1,498,000	634,080	2,132,960	2,132,000	1950	17,984,000	4.51	2,025,826	13	26,335,738	1,187,742
1951	960	1,498,000	719,560	2,218,320	2,218,000	1951	20,202,000	4.48	2,107,544	14	29,505,616	1,321,852
1952	320	1,498,000	808,080	2,306,400	2,298,000	1952	22,500,000	4.45	2,183,560	15	32,783,400	1,460,802
Totals	5,440	19,476,000	4,532,400	24,013,840	24,000,000				22,804,800		215,675,941	10,064,032
Average Cost of Financing											4.66%	

\* Sinking Fund - Provides that company deposit with Corporate Trustee on or before the 20th day of February in each of the years 1938, 1939 and 1940 an amount of cash sufficient to redeem at their principal amount on next succeeding interest date \$500,000 bonds of Series A and on or before the 20th day of February in each year thereafter, cash sufficient to redeem at their principal amount on next succeeding interest date (or, in the case of cash to be deposited on 20th day of February, 1952, sufficient to pay on March 1st, 1952) (1) \$1,498,000 bonds of Series A and (2) principal amount of bonds of Series A equal to one year's interest on all Series A bonds theretofore required to be retired by operation of said sinking fund subsequent to the year 1940.

Source: Compiled by Standard & Poor's Corp. from data appearing in Moody's Manuals.

Table for Chart No. 17

## PAWNAWOLE EASTERN PIPE LINE COMPANY

PROJECTION OF AVERAGE INTEREST COST, DEBT RETIREMENT AND AMOUNTS  
TO BE OUTSTANDING OF DEBT ISSUED IN THE 1941 REFINANCING

Issue	Interest Rate	Scheduled Par Amount	Retire- ment date Nov. 1	Effective Yield		Funds Available to Company			Total Cost of Capital Based on Effective Yield Rate	Schedule of Debt Retirements		Schedule of Outstanding Debt as of Nov. 1
				Price on which Based	Rate	Amount	Length of Time	Equivalent Amount For 1 year		Amount due on Nov. 1 to Company	Maturity Yield based on Price of Nov. 1	
1st Mtge & 1st Lien B SP No 1960	3.00%	1,200,000	1951	99.02	3.11%	1,188,240	11 yrs.	13,070,640	406,497	1941	1,250,000	23,250,000
		1,200,000	1952		3.10	1,188,240	12	14,258,880	442,026	1942	"	22,000,000
		1,200,000	1953		3.09	1,188,240	13	15,447,120	477,316	1943	"	20,750,000
		1,200,000	1954		3.09	1,188,240	14	16,635,360	513,033	1944	"	19,500,000
		1,200,000	1955		3.08	1,188,240	15	17,823,600	548,967	1945	"	18,250,000
		1,200,000	1956		3.08	1,188,240	16	19,011,840	585,568	1946	"	17,000,000
		1,200,000	1957		3.07	1,188,240	17	20,200,080	620,142	1947	"	15,750,000
		1,200,000	1958		3.07	1,188,240	18	21,388,320	656,621	1948	"	14,500,000
		1,200,000	1959		3.07	1,188,240	19	22,576,560	693,100	1949	"	13,250,000
		1,200,000	1960		3.07	1,188,240	20	23,764,800	729,579	1950	"	12,000,000
										1951	1,200,000	10,800,000
										1952	"	9,600,000
										1953	"	8,400,000
										1954	"	7,200,000
										1955	"	6,000,000
										1956	"	4,800,000
										1957	"	3,600,000
										1958	"	2,400,000
										1959	"	1,200,000
										1960	"	0
		12,000,000				11,882,400	155	184,177,200	5,673,845			
Average Annual Interest Cost of above issue									3.08%			
1st Mtge & 1st Lien A 1.65 2.30% due 1946 to 1950	1.65%	1,250,000	1946	100	1.65%	1,250,000	6 yrs.	7,500,000	123,750			
	1.85	1,250,000	1947		1.85	1,250,000	7	8,750,000	161,875			
	2.00	1,250,000	1948		2.00	1,250,000	8	10,000,000	200,000			
	2.15	1,250,000	1949		2.15	1,250,000	9	11,250,000	241,875			
	2.30	1,250,000	1950		2.30	1,250,000	10	12,500,000	287,500			
		6,250,000				6,250,000	40	50,000,000	1,015,000			
Serial Notes 0.75% to 1.50% due 1942 to 1945	0.75%	1,250,000	1942	100	0.75%	1,250,000	2	2,500,000	18,750			
	1.00	1,250,000	1943		1.00	1,250,000	3	3,750,000	37,500			
	1.25	1,250,000	1944		1.25	1,250,000	4	5,000,000	62,500			
	1.50	1,250,000	1945		1.50	1,250,000	5	6,250,000	93,750			
		5,000,000				5,000,000	14	17,500,000	212,500			
		23,250,000				23,132,400		231,477,200	6,901,345			
Average Annual Interest Cost of Long Term Capital									2.74%			

Source: Compiled by Standard &amp; Poor's Corp.

PANHANDLE EASTERN PIPE LINE COMPANYPREFERRED STOCK

<u>Issue</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>Est. 1941</u>
\$6 Class A pfd. stock, participating and redeemable (\$100 par)	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
\$6 Class B pfd. stock, non-participating and non-redeemable (\$100 par)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Total	11,000,000	11,000,000	11,000,000	11,000,000	11,000,000

Dividend Requirements

\$6 Class A pfd. - regular	(a) 600,000	600,000	600,000	600,000	600,000
- participating		182,163		403,684	* 269,122
\$6 Class B pfd.	(a) 60,000	60,000	60,000	60,000	60,000
Total	660,000	842,163	660,000	1,063,684	929,122
Percent Cost	6.00%	7.66%	6.00%	9.67%	8.45%

<u>Weighted Average</u>			
<u>Year</u>	<u>%</u>	<u>Weight</u>	<u>Total</u>
1937	6.00	1	6.00
1938	7.66	2	15.32
1939	6.00	3	18.00
1940	9.67	4	38.68
1941	8.45	5	42.25
		15	120.25
<u>Weighted Average</u>			<u>8.00%</u>

(a) Paid May 3, 1937.

(b) Estimated on basis total common dividend of \$2.50 on 807,367 common shares.

(c) This amount was paid on Jan. 31, 1940 to holders of record Jan. 19, 1940 as a special dividend out of 1939 earnings. If this amount is included in 1939 the % cost would be 9.67% for that year and 6.00% for 1940.

Source: Compiled by Standard &amp; Poor's Corp.

Table for Chart No. 19

EARNINGS - PRICE RATIOS ON NATURAL GAS PIPE LINE COMMON STOCKS1937 - 1940

	<u>Earnings Per Share (1)</u>				<u>Average High and Low Prices (2)</u>				<u>Earnings - Price Ratios</u>				
	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>1937</u>	<u>1938</u>	<u>1939</u>	<u>1940</u>	<u>Average</u>
El Paso Natural Gas Co. (a)	3.00	3.30	3.75	3.75	21.75	23.44	25.36	33.94	13.79	14.08	10.60	10.99	12.37
Interstate Natural Gas Co.	2.50	2.13	2.11	2.07	25.25	21.25	23.75	23.86	9.90	10.02	8.88	8.67	9.37
Memphis Natural Gas Co.	0.78	(a) 0.64	0.65	0.69	4.63	3.94	4.13	4.32	16.85	16.24	15.74	15.75	16.15
Southern Natural Gas Co. (b)	2.01	1.49	2.55	3.17	(b)	(b)	11.81	15.75	-	-	21.59	20.13	20.86
Panhandle Eastern Pipe Line Co.	3.57	2.84	3.82	3.99	(c)	(c)	39.75	29.44	-	-	9.61	13.55	11.56
Average									13.51	13.45	13.28	13.82	13.59

(a) Earnings for 1938 revised to give effect to compromise settlement under city-gate contract with Memphis Power &amp; Light Co.

(b) Prior to May 1939 there were two classes of common outstanding, Class A and B. Earnings of the four years based on 691,970 shares which were exchanged for former Class A and B shares.

(c) No stock held by public prior to September, 1939.

Sources: (1) Standard Corporation Records.

(2) Computed by Standard and Poor's Corp. from Moody's Public Utility Manuals, 1938 to 1941, both inclusive.

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Table for Chart No. 20

CURRENT EARNINGS - PRICE RATIOS ON NATURAL GAS PIPE LINE COMMON STOCKS

Earnings Data

<u>Name of Company</u>	<u>Period</u>	<u>Available for Total Capital</u>	<u>Available for Common Stock</u>	<u>% of Total Earnings available for Common Stock</u>	<u>Earnings Common Per Share</u>	<u>Average Market Price Jan. 1 - Aug. 31 1941</u>	<u>Earnings Price Ratio</u>
Interstate Natural Gas Co., Inc.	Calendar year ended Dec. 31, 1940	1,972,286	1,972,286	100.00	2.07	22.00	9.41
Memphis Natural Gas Co.	Calendar year ended Dec. 31, 1940	692,173	636,710	91.89	0.69	4.57	15.10
El Paso Natural Gas Co.	12 mos. ended June 30, 1941	2,689,603	2,173,657	80.85	3.61	31.06	11.62
Southern Natural Gas Co.	12 mos. ended June 30, 1941	3,715,282	2,646,108	71.22	2.04	11.61	17.27
Panhandle Eastern Pipe Line Co.	12 mos. ended June 30, 1941	5,814,975	3,396,491	58.41	4.21	36.50	11.53
Northern Natural Gas Co.	12 mos. ended June 30, 1941	4,364,220	3,737,260	85.63	3.66	21.40	11.72

(a) Price to public on Sept. 10, 1941, less \$0.60 dividend declared Sept. 4, 1941, payable to stockholders of record Sept. 24, 1941.

Source: Compiled by Standard & Poor's, Inc. from Annual Reports of Stockholders and N. Y. Times.

## DATA REGARDING PUBLIC OFFERING OF 355,250 SHARES

## NORTHERN NATURAL GAS COMPANY COMMON STOCK

355,250 shares of Northern Natural Gas Co. common stock, representing 35% of the total common stock outstanding, were publicly offered on September 10, 1941 by Elyth & Co., Inc. This transaction did not represent new financing but was the stock which had previously been owned by The United Light & Railways Co. The price to public was \$32.00 per share, but this amount included payment of a \$0.60 per share dividend declared on September 4, 1941 and payable on September 20, 1941 to stockholders of record September 24, 1941. The public offering price on an ex-dividend basis was \$31.40 per share. Data regarding the expenses of financing are shown in the following table:

	Per Share	Total for 355,250 Shares
Price to Public (ex-dividend basis)	\$31.40	\$11,225,000
Underwriting Commissions	2.35	824,838
Expenses to Seller	0.32	115,000
Net Proceeds to Seller (ex-dividend basis)	28.73	10,205,012

The underwriting commissions and expenses to the seller totaling \$2.67 per share represented 8.50% of the price to the public and 8.24% of the net proceeds to the seller, indicating the current cost of financing an established natural gas pipe line company's common stock.

The latest reported earnings of the Northern Natural Gas Co. covered the twelve months ended June 30, 1941 and amounted to \$3,737,250, equal to \$3.68 per share. However, in the prospectus covering the public sale, it was stated that the new tax law under consideration would reduce net earnings considerably. An estimate by Northern Natural Gas Co., on the basis of the bill as passed by the House of Representatives, was that income and excess profits taxes for 1941 would increase by approximately \$661,000 on a consolidated basis, approximately \$31,000 of which would be applicable to the first six months of 1941. This would reduce net income for the twelve months ended June 30, 1941 to \$3,306,250, equal to \$3.26 per share. On the basis of these earnings and the prices above, the following earnings-price ratios are indicated:

	Earnings-Price Ratios	
	Based on Earnings Before Tax Adjustment	Based on Earnings After Tax Adjustment
Price to Public (ex-dividend basis) \$31.40 per sh.	11.72%	10.34%
Net Proceeds to Seller (ex-dividend basis) \$28.73 per sh.	12.81%	11.35%

Source: Data taken from S.E.C. Holding Company Act Release No. 2961.

PANHANDLE EASTERN PIPE LINE COMPANYSTATISTICS OF GROWTH 1936-1940

<u>As of December 31</u>	<u>Gross Property, Plant &amp; Equipment</u>		<u>Pipe Line Miles- Gathering, Main &amp; Lateral (as of Dec. 31)</u>	<u>Installed Horsepower of Generating Stations (as of Dec. 31)</u>
	<u>As of Dec. 31</u>	<u>Annual Increase</u>		
1935	42,350,377			
1936	46,543,078	4,192,701	1,661	43,360
1937	58,060,016	11,416,937	2,030	72,700
1938	58,547,870	487,855	2,100	72,700
1939	59,479,728	931,858	2,116	73,900
1940	64,854,956	5,375,228	2,374	80,100
Average for 1936-1940		4,600,916		

Source: Company's Annual Reports.

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Table for Chart No. 29

AS OF DECEMBER 31, 1960

	Preferred to Total Liquidation		El Paso	Panhandle Eastern
Cities Service Gas Co., Inc.	None			
El Pan. Natural Gas Co.	6.65%	Net Debt	1,630,808	49.20
Interstate Natural Gas Co., Inc.	None	Preferred	1,429,700	6.85
Memphis Natural Gas Co.	None	Common Stock		
Mississippi River Fuel Co.	None	A Surplus	9,496,033	43.95
Northern Natural Gas Co.	None			
Southern Natural Gas Co.	None	Total	21,606,541	100.00
Panhandle Eastern Pipe Line Co.	18.82%			
			59,407,968	100.00

Source: Compiled by Standard & Poor's Corp. from annual reports to stockholders.

Table for Chart No. 28

PANHANDLE EASTERN PIPE LINE COMPANY  
EARNINGS NECESSARY TO MAINTAIN CREDIT POSITION  
BASED ON INVESTED CAPITAL AS OF JUNE 30, 1941

<u>Invested Capital</u>	<u>Principal Amount</u>	<u>Yield Rate</u>	<u>Earnings Requirements</u>
<u>Long-Term Debt</u>			
1st Mtge & 1st Lien S. P. "B" 3's, 1960	12,000,000		
1st Mtge & Trust Lien "A" 1.65-2.30%, 1946-50	6,250,000		
Serial Notes A, B, C & D 0.75-1.50%, 11/1/42-45	5,000,000		
Leasehold Purchase Obligations	17,544		
Total Long-Term Debt	23,267,544	(a) 2.74%	637,531
<u>Preferred Stock</u>			
\$6 Cum. Pfd., Class A (100,000 shs.)	10,000,000	(b) 8.50%	860,122
\$6 Cum. Pfd., Class B (10,000 shs.)	1,000,000	6.00%	60,000
	11,000,000	8.45%	929,122
<u>Common Stock &amp; Surplus (807,367 shs.)</u>	<u>29,258,295</u>	(c) 12.00%	<u>3,510,995</u>
Total Invested Capital	63,525,839	7.99%	5,077,648

- (a) Based upon average annual cost of senior capital raised in 1941 financing.  
 (b) Participation of the Class A preferred stock computed on the basis of a \$2.50 annual dividend on 807,367 common shares.  
 (c) Based upon estimated cost of common stock financing.

Source: Compiled by Standard & Poor's Corp. from Company's Balance Sheet June 30, 1941.

PANHANDLE EASTERN PIPE LINE COMPANYEARNINGS NECESSARY TO MAINTAIN CREDIT POSITION

(ASSUMING REFINANCING OF PRESENT PREFERRED STOCK BY MEANS OF 6% BONDS SOLD AT 5.25%  
AND 6% COMMON STOCK SOLD AT 12.00%)

<u>Invested Capital</u>	<u>Principal Amount</u>	<u>Yield Rate</u>	<u>Earnings Requirements</u>
<u>Present Long-Term Debt:</u>			
2nd Mortgage 1st Lien S.P. "B" 5 1/2%, 1960	12,000,000		
1st Mortgage Trust Lien "A" 1.85-2.30%, 1946-1960	6,250,000		
Serial Notes A, B, C & D 0.75-1.50%, 11/1/42-48	5,000,000		
Leasehold Purchase Obligations	17,544		
Total Present Long-Term Debt	23,267,544	(a) 2.74%	637,831
<u>Proposed Long-Term Debt:</u>			
Assuming issuance of a new 3 1/2% bond due after 1960, to net the company par, in an amount sufficient to provide 50% of funds necessary to retire present preferred stock	5,325,000 (b)	3.25	182,812
Total Proposed Debt	28,592,544	2.84	820,643
<u>Present Common Stock and Surplus (807,547 shares)</u>	29,258,295	(c) 12.00	3,510,995
<u>Proposed Common Stock and Surplus:</u>			
Assuming sale of sufficient common stock at price per share equivalent to present equity in common stock and surplus (\$36.24 per share) to provide 50% of funds to retire present preferred stock	5,325,000 (b)	12.00	638,000
Total Proposed Common Stock and Surplus	34,583,295	12.00	4,148,995
Total Proposed Capitalization	63,175,839	7.85%	4,969,638

\* Of which 45.30% would be debt and 54.70% would be common stock and surplus.

(a) Based upon average annual cost of senior capital raised in 1941 financing.

(b) 100,000 shares of Class A at \$100; 10,000 shares of Class B at \$125.

(c) Based upon estimated cost of common stock financing.

Source: Present Capital figures compiled by Standard & Poor's Corporation from Company's balance sheet at June 30, 1941.

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Table for Charts Nos. 29 to 36, incl.

PANHANDLE EASTERN PIPE LINE COMPANYDOLLARS NEEDED ANNUALLY TO PROVIDE SERVICE TO CUSTOMERS, A FAIR  
RETURN TO INVESTORS AND RETURN OF INVESTED CAPITAL WHEN RESERVES ARE EXHAUSTED

	Actual 12 months ended June 30, 1941	Projected (assuming present preferred stock is retired)	Remarks
<u>Cash Expenses (exclusive of Capital Requirements):</u>			
Operations	2,902,353	3,192,000	
Maintenance	294,444	324,000	Allows 10% increase for higher wage and material costs.
Total Operations and Maintenance	3,196,797	3,516,000	
Taxes:			
State, Local and Miscellaneous Federal	649,017	700,000	Allows for some increase in capital stock and other miscellaneous taxes.
Federal Income and Excess Profits:			
Computed on basis of Second Revenue Act of 1940	2,359,100	3,367,000	
Computed on basis of Revenue Act of 1941		336,000	Allows for a further 10% increase in Federal Taxes in 1942.
Allowance for increase in 1942			
Total Taxes	3,008,117	4,399,000	
Total Cash Expenses (exclusive of Capital Requirements)	6,204,914	7,915,000	
<u>Capital Requirements:</u>			
Interest on Funded Debt	751,924	723,437	Includes \$540,625 present annual interest plus \$182,812 requirement on \$5,626,000 new bonds sold @ 3.25% to provide 50% of capital to retire present preferred stock.
Less - Other Interest Deductions (net)	28,456		
	723,468	723,437	
Amortization of Debt Discount and Expense	306,535	84,079	Represents amount needed to amortize \$2,101,986 of Debt Discount and Expense in process of amortization as of June 30, 1941 over a period of 25 years, the estimated life of gas reserves.
Preferred Dividend Requirements (Based on maximum participation of Class A Prfd. stock)	1,388,480		
Balance for Common Stock (after participation of A Prfd. stock)	3,396,492	4,185,995	Represents 12% earnings-price ratio on common stock and surplus as of June 30, 1941 of \$29,268,295, or \$3,510,995, plus 12% requirement on \$5,626,000 to be raised by common stock financing to provide 50% of capital to return present preferred stock, or \$675,000.
Total Capital Requirements	5,814,975	4,993,511	
Amount necessary to return capital to investors when reserves are exhausted			
Provision for Depreciation, Depletion and Amortization	2,316,560	2,551,034	Annual provision necessary to return \$63,778,839 of invested capital over 25 years - includes sinking fund and maturity provision of present debt.
Total Dollars Needed	14,336,449	15,459,545	

Source: Compiled by Standard and Poor's Corp.

## PANHANDLE EASTERN PIPE LINE COMPANY

Table for Chart No. 37

DOLLARS NEEDED ANNUALLY TO PROVIDE SERVICE TO CUSTOMERS, A FAIR  
RETURN TO INVESTORS AND RETURN OF INVESTED CAPITAL WHEN RESERVES ARE EXHAUSTED

	Actual 12 months ended June 30, 1941	Projected (assuming present preferred stock remains outstanding)	Remarks
<u>Cash Expenses (exclusive of Capital Requirements):</u>			
Operations	2,902,353	3,192,000	
Maintenance	294,444	324,000	
Total Operations and Maintenance	3,196,797	3,516,000	Allows 10% increase for higher wage and material costs.
Taxes:			
State, Local and Miscellaneous Federal	649,017	700,000	Allows for some increase in capital stock and other miscellaneous taxes.
Federal Income and Excess Profits:			
Computed on basis of Second Revenue Act of 1940	2,358,100	3,363,000	
Computed on basis of Revenue Act of 1941		336,000	
Allowance for increase in 1942			Allows for further 10% increase in federal taxes in 1942.
Total Taxes	3,008,117	4,399,000	
Total Cash Expenses (exclusive of Capital Requirements)	6,204,914	7,915,000	
<u>Capital Requirements:</u>			
Interest on Funded Debt	751,924	540,625	
Less -- Interest deductions (net)	28,466		Present annual interest requirement
Amortization of Debt Discount and Expense	723,468	540,625	
	306,535	84,979	Represents amount needed to amortize \$2,101,904 of Debt Discount and Expense in process of amortization as of June 30, 1941 over a period of 25 years, the estimated life of gas reserves
Preferred Dividend Requirements (Based on maximum participation of Class A Pfd. stock)	1,388,480	929,122	Participation of the Class A preferred stock computed on the basis of a \$1.50 annual dividend on 807,367 common shares
Balance for Common Stock (after participation of A Preferred stock)	3,396,492	3,510,995	Represents 12% earnings-price ratio on common stock and surplus as of June 30, 1941 of \$29,258,295.
Total Capital Requirements	5,814,975	5,064,821	
Amount necessary to return capital to investors when reserves are exhausted:			
Provision for Depreciation, Depletion and Amortization	2,316,560	2,341,034	Annual provision to return \$63,525,839 of invested capital over 27 years - includes sinking fund and maturity provision of funded debt.
Total Dollars Needed	14,336,449	15,520,855	

Source - Compiled by Standard and Poor's Corp.

## Panhandle Eastern Pipe Line Company And Subsidiary Companies

Amount Of Depreciation On Book Cost Of Property  
As Of June 30, 1941.

Line No.	Account Number (A)	Item (B)	As Per Books (C)	Deduct for Depreciation (D)	Book Cost Less Depreciation (E)
1		<u>Undistributed Intangible Fixed Capital</u>			
2	200	Organization	\$ 115 172 86	\$ —	\$ 115 172 86
3	203	Misc. Intangible Capital	64 427 72	—	64 427 72
4		Total Undistributed			
5		Intangible Fixed Capital	179 600 58	—	179 600 58
6		<u>Production System Property</u>			
7	205	Land	299 00	—	299 00
8	208	Leaseholds	1 745 207 39	—	1 745 207 39
9	211	Gas Wells	2 620 290 94	216 232 61	2 404 058 33
10	218	Other Production System			
11		Structures	46 808 76	6 230 39	40 578 37
12	230	Drilling & Cleaning			
13		Equipment	20 376 46	5 169 11	15 207 35
14	231	Other Production System			
15		Equipment	399 08	99 77	299 31
16	209	Production System Rights			
17		of Way	665 13	—	665 13
18	214	Field Measuring Station			
19		Structures	1 985 22	198 52	1 786 70
20	228	Gathering Lines	58 707 45	18 957 70	39 749 75
21	229	Field Measuring Station			
22		Equipment	13 229 90	661 50	12 568 40
23		Total Production System			
24		Property	4 508 269 42	247 549 60	4 260 719 82
25		<u>Transmission System Property</u>			
26	235	Land	118 659 15	—	118 659 15
27	237	Rights of Way	1 181 039 97	—	1 181 039 97
28	238	Compressor Station			
29		Structures	1 314 758 79	57 773 53	1 256 985 26
30	239	Transmission Measuring			
31		Station Structures	69 576 90	7 802 70	61 774 20
32	240	Other Transmission			
33		Structures	409 186 09	41 217 72	367 968 37
34	241	Compressor Station Equipment	8 436 264 23	622 777 63	7 813 486 60
35	242	Transmission Measuring			
36		Station Equipment	519 172 09	50 674 31	468 497 78
37	243	Transmission Mains	46 511 611 72	2 741 396 81	43 770 214 91
38	244	Other Transmission Equipment	9 173 92	658 39	8 515 53
39	244-1	Cathodic Protection			
40		Equipment	39 776 44	6 486 65	33 289 79
41		Total Transmission System			
42		Property	\$58 609 214 30	\$3 530 787 74	\$55 078 426 56

## Panhandle Eastern Pipe Line Company And Subsidiary Companies

## Amount Of Depreciation On Book Cost Of Property

As Of June 30, 1941

(Continued)

Line No.	Account Number (A)	Item (B)	As Per Books (C)	Deduct for Depreciation (D)	Book Cost Less Depreciation (E)
1		<u>General Property</u>			
2	276	Office Equipment	\$ 78 082 36	\$ 11 712 35	\$ 66 370 01
3	280	Garage Equipment	109 226 87	21 687 28	87 539 59
4	281	Laboratory Equipment	6 550 71	1 310 14	5 240 57
5	282	Communication Equipment	371 355 85	37 451 61	333 904 24
6	283	Tools and Implements	40 251 96	10 062 97	30 188 99
7		Total General Property	605 467 75	82 224 35	523 243 40
8		<u>Other Undistributed Fixed Capital</u>			
9	299	Undistributed Fixed Capital	19 730 34		19 730 34
10		Construction Work in Progress	383 115 93		383 115 93
11		Gas Sales & Purchase Contracts			
12		(Less 1,611,657.30 Reserves)	1 318 629 10		1 318 629 10
13		Other Gas Sales and Purchase Contracts	365 334 99		365 334 99
14					
15					
16		Total Plant Property and			
17		Equipment — Gas	65 989 362 41	3 860 561 69	62 128 800 72
18		<u>Gasoline System Property</u>			
19	725	Extraction Plant Land	3 812 98		3 812 98
20	726	Extraction Plant Structures	53 991 41	2 560 22	51 431 19
21	727	Extraction Plant Equipment	589 099 94	37 878 54	551 221 40
22	730	Extraction Plant Storage Tanks	45 631 13	1 368 93	44 262 20
23		Other Gasoline Plant Equipment	7 330 81	733 08	6 597 73
24	734	Construction Work in Progress	440 89		440 89
25					
26					
27					
28		Total Plant Property and			
29		Equipment — Gasoline	700 307 16	42 540 77	657 766 39
30		Total Plant Property and			
31		Equipment	\$66 689 669 57	\$3 903 192 46	\$62 786 567 11

(fol. 13711)

(Exhibit 70.)

Panhandle Eastern Pipe Line Company And Subsidiary Companies  
 Reproduction Cost New Of Plant Property And Business  
 As Of June 30, 1941

Determined from valuation of September 30, 1938 by addition of net property additions, plus items of Working Capital, Value of Gas Purchase Contracts and Cost of Business Development from Valuation of June 30, 1941.

Line No.	(A)	(B)
1	Total Fixed Property September 30, 1938	\$64 544 104 58
2	Less Construction Work in Progress	63 213 38
3		64 480 889 20
4	Net Additions to June 30, 1941	6 380 886 03
5	Total Fixed Property June 30, 1941	70 861 775 23
6	Working Capital, valuation of June 30, 1941	1 569 000 00
7	Value of Gas Purchase Contracts, Valuation of June 30, 1941	1 585 914 00
8	Cost of Business Development, Valuation of June 30, 1941	6 053 992 48
9	Reproduction Cost New Plant, Property and Business	\$80 079 681 71

(fol. 13713)

(Exhibit 71.)

P. McDonald Biddison,  
 Consulting Engineer  
 Dallas Gas Building  
 Dallas, Texas

October 14, 1938.

Panhandle Eastern Pipe Line Company,  
 90 Broad Street,  
 New York, N. Y.

Attention: Mr. J. D. Creveling, President.

Gentlemen:

I have made an appraisal of the consolidated Plant, Property and Equipment of Panhandle Eastern Pipe Line Company and its Subsidiary Companies, Central Distributing Company, and Illinois Natural Gas Company, as of September 30, 1938. For the Plant, Property and Equipment, I find a Reproduction Cost New of \$64,723,344.93 and a Present Value of \$63,248,549.57, as summarized on Pages

1 to 3 hereof. The values for leases used in the estimate are the values from the report of Ralph E. Davis of February 1, 1937, for leases and wells of that date less acreage surrendered since February 1, 1937, plus acreage acquired (at values determined from the Davis report) less my estimate of cost and value of wells included in his report.

The items Material and Supplies and Construction Work in Progress have been taken from the books. These values shown do not include any sums for Cash Working Capital, or Going Concern Value, all of which items are proper elements of the value to be used in fixing rates. The business of this company is still in the development stage and Going Concern Value is being created, but I have not made any estimate of its present amount.

I have examined a great deal of the property and have inspected plans and specifications under which it was constructed. The two gas fields from which the system draws its supply are the largest ever known. The compressor stations on the main system are carefully designed; their equipment is first class in all respects, they present a neat [fol. 13714] and attractive appearance and are maintained in excellent condition. All these features tend to produce reliability and economy of operation. The main transmission system has been constructed with a margin of safety as to pressure so that it may safely be operated at 500 pounds compressor station discharge. River crossings locations have been selected so as to secure the greatest degree of stability obtainable, and multiple lines across streams so located and installed as to leave very slight probability of interruption from such causes. The lines have been well located and well laid to secure stability and are carefully maintained. The main line loops completed in 1937 provide additional protection against service interruption. The Gasoline Plant at Liberal is of the most recent design and the dehydration plant in connection with it is an effective insurance against interruption of service from freezing of lines. Measuring and Regulating Stations are of up-to-date equipment, carefully maintained and the stations are neat and clean. Little evidence of deterioration in the property can be found except in that relatively small portions in the local fields near Kansas City. Pipe exposed in making connections for 1937 additions

show no interior corrosion. Later tests have disclosed light interior encrustation (mostly sand) on the original line westward from Olpe to Liberal. This is not pitting nor active corrosion. Steps are being taken to clean the interior of the section affected. Inspection of routine reports on condition of protective coating show little deterioration of protective coating and pitting only in a few very restricted areas. Such areas are being protected cathodically as they develop.

Yours very truly,

P. McDONALD BIDDISON,  
Consulting Engineer.

PMcDB/1

[fol. 13719]

Panhandle Eastern Pipe Line Company

Appraisal of Property as of September 30, 1938

### Recapitulation

Item	Reproduction Cost — New	Present Value
<b>Production System Property</b>		
Production System Land	\$ 964 69	\$ 964 69
Production System Leaseholds	4,592,116 01	4,592,116 01
Gas Wells and Equipment	1,882,830 00	1,826,345 10
Production System Structures	36,624 58	34,643 10
Drilling and Cleaning Equipment	29,018 49	23,214 79
<b>Total — Production System</b>	<b>\$ 6,541,553 77</b>	<b>\$ 6,477,283 69</b>
<b>Transmission System Property</b>		
Transmission System Land	\$ 51,853 46	\$ 51,853 46
Transmission System Right of Way	1,109,981 45	1,106,322 71
Transmission Measuring and Regulating Station Structures	83,090 19	76,729 57
Other Transmission System Structures	211,393 94	205,824 00
Transmission Measuring and Regulating Equipment	543,746 25	532,186 68
Transmission Mains	36,021,922 64	34,984,276 53
Compressor Stations	8,779,357 34	8,518,704 54
Other Transmission System Equipment	19,540 85	18,954 62
<b>Total — Transmission System</b>	<b>\$46,820,686 12</b>	<b>\$45,494,852 11</b>

## Distribution System Property

Distribution System Right of Way	\$ 652 93	\$ 652 93
District Regulator Structures	3,064 64	2,991 08
Other Distribution Structures	346 08	242 26
District Regulator Equipment	6,887 56	6,749 81
Distribution Mains	299,900 96	280,902 18
Services	49,678 84	47,194 90
Meters	53,290 09	50,625 58
Meter Installations and Connections	14,882 92	14,138 77
House Regulators	11,866 12	10,678 61
Other Distribution System Equipment	476 36	428 72

Total — Distribution System	\$ 441,045 53	\$ 414,604 84
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## Gasoline Production System Property

Liberal Gasoline Plant	\$ 591,143 81	\$ 585,232 37
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Total — Gasoline Production System	\$ 591,143 81	\$ 585,232 37
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[fol. 13720] Panhandle Eastern Pipe Line Company

Appraisal of Property as of September 30, 1938

## Recapitulation

Item	Reproduction Cost — New	Present Value
General System Property		
General Office Equipment	\$ 66,372 38	\$ 56,416 52
General Garage Equipment	92,482 00	76,760 06
General Laboratory Equipment	6,869 88	6,182 89
General Communication Equipment	454,789 68	432,050 20
General Tools and Implements	21,474 33	16,939 46
Total — General Property	\$ 641,688 27	\$ 588,349 13
Sub-Total	\$55,036,417 50	\$53,560,322 14
Intangible Fixed Capital		
Preliminary and Organization Expense	\$ 502,271 20	\$ 502,271 20
Sub-Total	\$55,538,388 70	\$54,062,593 34
Undistributed Construction Expenditures		
Engineering and Superintendence	\$ 2,260,220 39	\$ 2,260,220 39
Administrative Expense	1,062,303 58	1,062,303 58
Law Expense	125,567 80	125,567 80
Taxes During Construction	502,271 20	502,271 20
Interest During Construction	3,929,833 95	3,929,833 95
Miscellaneous Construction Expenditures and Omissions	1,062,303 58	1,062,303 58
Sub-Total	\$ 8,942,500 50	\$ 8,942,500 50

Construction Work in Progress	\$ 63,215 38	\$ 63,215 38
Total Fixed Property	\$64,544,104 58	\$63,068,309 22
Material and Supplies	\$ 180,240 35	\$ 180,240 35
Total	\$64,724,344 93	\$63,248,549 57

[fol. 14178]

Exhibit 72

Witness Watkins

Panhandle Eastern Pipe Line Company And Subsidiary Companies  
 Net Additions To Gas Plant — Per Books  
 From October 1, 1938 To June 30, 1941

Line No.	(A)	Amount (B)
1	Production System Property	
2	Production System Leaseholds	\$ 44 334 44
3	Gas Wells and Equipment	398 621 24
4	Production System Structures	16 473 27
5	Drilling and Cleaning Equipment	7 563 23
6	Total Production System	363 196 84
7	Transmission System Property	
8	Transmission System Land	10 778 03
9	Transmission System Right of Way	71 914 56
10	Transmission Measuring and Regulating Station Structures	11 267 58
11	Other Transmission System Structures	79 024 32
12	Transmission Measuring and Regulation Station Equipment	61 423 00
13	Transmission Mains	4 976 333 78
14	Compressor Stations	773 775 27
15	Other Transmission System Equipment	34 065 36
16	Total Transmission System	6 018 581 90
17	Distribution System Property	
18	Distribution System Right of Way	652 93
19	District Regulator Structures	1 135 18
20	Other Distribution Structures	1 311 87
21	District Regulator Equipment	7 402 85
22	Distribution Mains	295 462 96
23	Services	42 682 97
24	Meters	46 880 69
25	Meter Installations	4 489 80
26	House Regulators and Installations	12 820 29
27	Other Distribution System Equipment	476 36
28	Total Distribution System	413 315 90

29	Gasoline Production System Property	
30	Liberal Gasoline Plant	76 026 30
31	Total Gasoline Production System	76 026 30
32	General System Property	
33	General Office Equipment	11 709 98
34	General Garage Equipment	16 898 70
35	General Laboratory Equipment	319 17
36	General Communication Equipment	3 371 52
37	General Tools and Implements	19 077 53
38	Total General Property	50 738 56
39	Intangible Fixed Capital	
40	Preliminary and Organization Expense	34 683 11
41	Construction Work in Progress	320 341 44
42	Total	\$6 380 886 03

[fol. 14198]

(Exhibit 74.)

Table I

Total Additional Necessary  
Materials And Supplies  
By Departments

(Figures as Quoted on Page 467,  
Lines 13 to 20, Inclusive)

Transmission Department, including Gas Measurement	\$138,976 80
Production Department	29,037 76
Compressor Department, including Gasoline Plant and Auxiliary Equipment	188,700 35
Communications Department and Cathodic Protection Department	15,662 06
Transmission Department (Automotive Equipment)	2,015 68
	\$374,392 65

[fol. 14199]

Table H

Additional Necessary Materials And Supplies  
By Departments  
Classified To Show The Aggregate Supplies

(1)

Now on Hand and on Order

(2)

Now on Hand, Now on Order, and Those  
Which are to be Ordered within the Next Ninety Days

(3)  
Now on Hand, Now on Order, Those Which  
will be Ordered within the Next Ninety Days, and  
Those Which will be Ordered Thereafter

(Figures as Quoted on Page 467, Line 21, through Page 469, Line 17)

Department	(1)	(2)	(3)
Transmission and Gas Measurements	\$189,730.97	\$219,074.01	\$297,270.21
Production Department	49,464.59	65,288.50	66,779.50
Compressor Department and Gasoline Plant, etc.	120,331.63	169,213.53	247,188.33
Communications and Cathodic Protection Departments	2,862.98	9,877.80	18,525.04
Transportation Department	3,700.47	3,700.47	5,716.15
Totals	\$366,090.64	\$497,154.31	\$635,479.26

[fol. 14200]

Table III

Summary Of Minimum Reasonable  
Amounts Of Working Capital  
Currently Needed

(Figures as Quoted on Page 471, Lines 5 through 17)

1. Normal cash funds for operating expenses	\$ 470,000.00
2. Cash for emergencies	100,000.00
3. Minimum bank balances	200,000.00
4. Prepayments	130,000.00
5. Materials and supplies	635,000.00
6. Line Pack	34,000.00
Total	\$1,569,000.00

[fol. 14201]

Table IV

Total Cash, Prepayments, And Materials And Supplies  
Actually Maintained By The Company  
At Certain Dates In The Past

(Figures as on Page 472,  
Lines 20 through 24, Inclusive)

June 30, 1937	\$3,070,960.52
December 31, 1937	1,889,574.34
June 30, 1938	1,672,443.61
December 31, 1938	1,646,111.52
June 30, 1939	233,423.49
December 31, 1939	5,731,934.85
June 30, 1940	6,190,999.35
December 31, 1940	4,030,616.16
June 30, 1941	7,446,667.39

[fol. 14202] (Exhibit 75.)

Panhandle Eastern Pipe Line Company  
Natural Gas Supply

Value of Gas Reserves and Wells

February 1, 1937.

Ralph E. Davis, Inc.

Engineers

Pittsburgh and New York

[fol. 14203]

Ralph E. Davis, Inc.

Engineers

New York  
150 Broadway

Petroleum and Natural Gas

1710 Union Bank Building

Pittsburgh

February 10, 1937

Panhandle Eastern Pipe Line Company

Kidder Peabody & Co. and the other several Underwriters

Dear Sirs:

We submit herewith report covering our recent study of the natural gas supply, also value of gas reserves and wells of Panhandle Eastern Pipe Line Company.

Yours very truly;

RALPH E. DAVIS, INC.

Engineers.

By Ralph E. Davis,

President.

[fol. 14207] Panhandle Eastern Pipe Line Company  
Natural Gas Supply

Value of Gas Reserves and Wells

February 1, 1937

We have made an investigation and study of the supply of natural gas available to Panhandle Eastern Pipe Line Company and submit the following report, in which we have

endeavored to cover everything of importance to prospective investors in reaching conclusions as to the adequacy of the Company's gas supply.

The gas produced and purchased by this Company and the gas reserves available to it are located almost entirely in the Amarillo and Hugoton gas fields.

### The Amarillo Field

#### Description and Development

The Amarillo Field contains the largest known gas reserve in the world. The proven gas area extends for a distance of some 125 miles through the Panhandle of Texas, varies from less than 10 to almost 40 miles in width, and covers approximately 1,400,000 acres. Gas was discovered in this field in December, 1918 as a result of exploration for oil. Subsequent development was very slow until the discovery of oil in 1925 led to more active drilling, which in 1926 and 1927 demonstrated the existence of extensive deposits of oil and gas. In November 1936 there were 1277 producing gas wells and 2907 oil wells in the oil producing area of the field, and drilling of both oil and gas wells continues actively.

The greater part of the gas produced in the Amarillo Field is "sweet" gas, containing practically no sulphur. However, along the northern flanks of the field there is a large area in which the gas produced is "sour", that is, it contains noticeable proportions of sulphur and sulphur compounds, to an extent rendering it undesirable without purification for ordinary commercial distribution or utilization; it is suitable, however, for burning in the carbon black manufacturing plants operating in this field. The location of the sweet gas and sour gas areas and the properties controlled by the Company are shown upon an appended map. The oil producing area of the Amarillo Field lies in a relatively narrow band extending for more than 90 miles along the northern flank of the field, from Hutchinson to Wheeler Counties, and located in general in the sour gas area.

The oil produced is accompanied by considerable casing-head gas, so that the early rapid development for oil led to the construction of many natural gasoline plants for

the extraction of gasoline from the casinghead gas available from the oil wells and the wells producing both oil and gas. After the extraction of gasoline from the casinghead gas, the residue gas discharged from the gasoline plants was blown into the air for lack of market.

This led to the erection of carbon black plants in the field to take advantage of the large supply of cheap gas. Prior to 1930 the principal seat of the carbon black industry was in the Monroe Gas Field of Louisiana. The trend of this industry since about 1930 has been marked by a reduction in the number of plants operating and quantities of black produced in Louisiana, coincident with the construction of many large plants in the Amarillo Field, which has now become the principal source of carbon black in the world. There are now 30 carbon black plants in the latter field which consumed, during the twelve months ending July 31, 1936, an average of approximately 500,000 M cubic feet\* of gas per day.

It was also found that the dry gas produced from wells making gas only, contained 250 or more gallons of gasoline per million cubic feet of gas; and that this relatively small gasoline content could be extracted with profit when treated in large volumes, even though there was no market for the residue gas after the gasoline was extracted. Hence, numerous natural gasoline plants were constructed for extracting or "stripping" the gasoline from this dry gas, allowing the residue from such "stripper" plants to be blown into the air. This wasteful practice of "stripping" was [fol. 14209] practically eliminated during the summer of 1935, by State regulation. There are now 44 natural gasoline plants in the Amarillo Field which consumed an average of approximately 1,083,000 M cubic feet per day during the 12 months ending July 31, 1936.

During the period from 1926 to 1931, 9 major pipe lines were constructed from the Amarillo Field to important, distant markets. These pipe lines derive their supply of gas from the sweet gas wells and the residue gas discharged from several of the gasoline plants which treat casinghead gas.

\*All volumes in this report are at a pressure base of 16.4 pounds per square inch, absolute pressure.

### Gas Wastage in the Amarillo Field

The large pipe line companies secured extensive blocks of leases for their individual requirements and in certain instances made contracts to purchase gas from other gas producers. A large number of gas wells were completed as a result of exploration for oil and many of these independent gas producers found themselves unable to sell gas or to make any profitable use of their wells. Some of these producers sought a quick outlet for their production through sales to the stripper gasoline plants.

The State of Texas has had general oil and gas conservation laws for many years (since 1899). In 1931, a State law was passed classifying the gas pipe line companies as common purchasers and requiring them to take gas ratably from all wells in any field based upon open flow capacity. This law was declared unconstitutional. A subsequent law was passed limiting the field output to the market demand, but this law was also declared invalid. At first the use of gas for gasoline plants which had no market for their residue was limited to the casinghead gas produced from combination oil and gas wells, as distinguished from dry gas wells. Early in 1933, certain gasoline plants were granted special permits for processing dry gas and soon a number of new gasoline plants of large capacity were constructed for this purpose and many of the existing plants previously treating only casinghead gas, began processing dry gas and blowing the residue to the air. By the Spring of 1935, the quantities of gas being blown to the air in this field exceeded one billion cubic feet per day. This tremendous waste of natural resources attracted national attention. If it had been permitted to continue, it would have seriously affected the future life of this great gas field supplying gas to consumers from Denver to Chicago and from Dallas to Minneapolis.

In 1935, the State of Texas enacted a comprehensive conservation statute (House Bill No. 266) which among other things, prohibited the escape to the air of gas produced from any gas well, before or after processing for gasoline extraction and prohibited the use of sweet gas produced from any gas well for carbon black manufacture. The market requirements for gas from the field were to be deter-

mined each month by the Railroad Commission and prorated between producers on the basis of acreage and open flow capacity of the wells. Under this law and the regulations of the Texas Railroad Commission, the gas blown to the air from gasoline plants has been reduced to 100,000 or 150,000 M<sup>3</sup> cubic feet per day.

The above statute was attacked in the courts by two of the pipe line companies operating out of the Amarillo field, and on February 1, 1937, the Supreme Court of the United States held it to be unconstitutional insofar as it might be construed to permit certain proration orders entered by the Texas Railroad Commission. Whatever the immediate effect of this decision may be it is probable that the normal operation of economic factors will prevent any gas wastage on a large scale for more than a limited period of time in the future.

#### Gas Reserves—Entire Amarillo Field

The Amarillo Field is located in an area where thick, marine, sedimentary beds were deposited in ancient times upon older rocks, known as the buried Amarillo Mountains. This buried mountain ridge underlies and forms the core of the field; while the sedimentary strata were laid down about it and over it like layers of blankets, arched upward along its flanks, thus forming a long anticlinal structure. The gas production is obtained from the Gray Lime and dolomitic Big Lime and from the Granite Wash, the latter being formed of detrital deposits washed down from the older mountains. These formations are of considerable thickness and have high porosity and permeability, as indicated by the large open flow capacity of the wells. The [fol. 14211] initial rock pressure of the wells was uniformly 430 pounds per square inch throughout the principal portion of the field, which is recognized to be a continuous, connected unit reservoir. The exception to this original pressure was found in the wells in Potter County, to the south of the fault separating that area from the main part of the field, where initial pressures of 720 pounds were observed. The depths of the wells vary from 2000 feet in the east end of the field to approximately 3000 feet in the western portion. The rock pressure in gas fields is generally found to be closely related to the depth of the

gas sand below the permanent water level in the vicinity. In the Amarillo Field the water table is deeply submerged below the ground surface, and as a result, the original rock pressure, although less than would be expected for wells of such depth, is normal with respect to the submerged water table.

The early estimates of gas reserves in the Amarillo Field, made before any considerable metered production had occurred, and prior to the time when reliable rock pressure records for the large number of wells were available, were necessarily based upon estimates of thickness and porosity of the producing horizons, considered in conjunction with the initial pressure and acreage involved. Estimates by such methods ranged from 5 to 16 trillion cubic feet.

The gas production from this field was at first not metered and many large wells blew open to the air for considerable periods of time. After 1933, however, practically all of the gas produced has been metered, and considered together with the most reliable estimates of the previous unmetered quantities, the total production to the end of the year 1935 is estimated to have been approximately 5 trillion cubic feet. See the attached Table No. 10.

The average rock pressure of the entire field weighted with respect to acreage, has been computed by us to be 357 pounds per square inch, as of January 1936. This weighted average pressure is independently confirmed by the Texas Railroad Commission's estimate of 355 pounds for July 1936. The pressure remaining January 1936, compared with the average initial rock pressure of 430 pounds, shows a total average pressure drop of 73 pounds; this [fol. 14212] results in a calculated withdrawal per pound drop in pressure of approximately 68.5 billion cubic feet. Theoretically, and supposing the reservoir to be of uniform thickness, porosity and content per acre, this withdrawal would indicate a future reserve as of January 1936, down to atmospheric pressure, of 24.4 trillion cubic feet. The reservoir is not uniform throughout, however, as indicated by the differences in the open flow, thickness of sand encountered and productive history generally. Past production to a large extent has come from the wells of larger

than average capacity, and it is reasonable to assume that the ultimate reserves of the portions of the field where the wells are larger will be greater per acre than in those portions where the wells' capacity are smaller. In practically 50% of the total acreage of the field, the remaining rock pressure is still more than 400 pounds per square inch. The ultimate rock pressure of the field to be reached at the time of final abandonment is also a factor which cannot be foreseen with exactness, but in any case not all of the present gas in place can be recovered. Making allowances for the condition of lack of uniformity of the reservoir rocks and for the portion of the reserves that will be unrecoverable, we have arrived at an estimate of the future recoverable gas production from the entire Amarillo Field as of January 1, 1936, of 20 trillion cubic feet. The reasonableness of this reduction from the theoretical result first arrived at may be tested by the following assumptions. If the final abandonment pressure should average 30 pounds instead of atmospheric pressure, then the 24.4 trillion cubic feet mentioned above would be reduced to 22.4 trillion. A further decrease of approximately 10% of this adjusted figure to 20 trillion cubic feet is equivalent to assuming that as much as 300,000 acres in the undepleted portion of the field will be found to contain an ultimate reserve of only 60% of the average content per acre in the main part of the field, in which practically all of the production and pressure decline have occurred up to the present time. Production data for the field for the full year 1936 are not yet available but it is estimated that the quantity of gas produced during the period from January [vol. 14213] 1, 1936 to February 1, 1937, was approximately 700 billion cubic feet. Taking into account this production, the remaining reserves of the field on February 1, 1937, are here estimated at 19.3 trillion cubic feet.

#### Company Gas Reserves in Amarillo Field

The location of the acreage under lease and controlled by the company under gas purchase contracts is shown on the appended map. This map also presents the average rock pressures remaining in January 1936 in various parts of the field. On November 1, 1936, the Company had leases covering 37,390 acres in the proven area, including 10,589

acres developed by gas wells, and 26,801 acres which were proven but undeveloped. The Company controlled 9,496 proven acres through gas purchase contracts. We at that time estimated the gas reserves for the entire Amarillo Field at 19.5 trillion cubic feet, representing an average of 13,900 M cubic feet per acre. However, as shown in Table No. 11, the Company's wells have higher open flow capacities and higher average rock pressures than the average for the entire field, whereas the wells controlled under gas purchase contracts show lower than average open flow and rock pressure tests. The Company is in position to take as much gas from the field as it is entitled to produce from the acreage it controls, and guided by these comparisons, we estimated future reserves for its leases as of November 1, 1936, at 15,000 M cubic feet per acre, and for the properties under contract at 11,000 M cubic feet per acre. The combined gas reserves controlled by the Company in the Amarillo Field, as of November 1, 1936, were thus estimated at 665 billion cubic feet.

During the period from November 1, 1936 to February 1, 1937, new properties have been added to the system and some gas has been produced, resulting in a net addition to the Company's proven reserves as shown by the following:

	Proven Reserves—Amarillo Field	
	November 1, 1936	February 1, 1937
Company Acreage, acres	37,390	38,070
Reserves at 15 million per acre, in billions of cubic feet	561	571
Purchase Contract Acreage, acres	9,496	22,964
Reserves at 11 million per acre, in billions of cubic feet	104	253
Total Acres Owned or Controlled	46,886	61,034
Total Reserves, Billions of cubic feet	665	824
Production, November 1, 1936 to February 1, 1937		6
Reserves Owned or Controlled, Billions of cubic feet		818

## Hugoton Field

Description

The Hugoton Field contains the second largest known natural gas reserve. It centers in Stevens County in southwestern Kansas but the proven area extends north into Finney County and south through Texas County, Oklahoma into the northernmost part of the Panhandle of Texas, as shown on the accompanying map.

Several gas wells were drilled in this general area in 1922 in the search for oil. The region was far from any large gas line or gas market and it was not developed extensively until 1929, 1930 and 1931. During this period approximately 150 gas wells were completed, proving up an immense natural gas reservoir.

The proven and probable gas area of the Hugoton Field, as bounded by the circumscribing line on the map, is approximately 110 miles long, or a width ranging up to 32 miles, and contains more than 4,700,000 acres. Within this area, however, there are many townships that have not yet been tested, although all of the wells drilled to the pay in this field have been found productive. It is possible that parts of the area included within the border line, showing the probable limits of the field as we now see it, may be found to be non-productive or to contain gas in quantities [fol. 14215] smaller than commercially profitable. It is also possible that considerable areas outside of this border line may eventually be found to contain gas in substantial quantities.

The Hugoton Field is located on a broad arch, dipping gently to the southeast. The gas deposit is encountered in the dolomitic Big Limestone of Permian Age at a depth of approximately 2800 feet. This stratum is also an important gas-bearing horizon in the Amarillo Field, some 100 miles south of the producing area at Hugoton. The initial rock pressure of the Hugoton gas wells was uniformly 430 pounds per square inch or slightly higher, practically the same as in the Amarillo Field. This similarity of reservoir pressures in the closely related strata in these two fields has led many to believe that the fields are connected, forming one large connected natural gas reservoir.

The Hugoton Field is purely a dry gas field, no oil having to date been discovered either in the gas producing formations or below them. The Hugoton gas is entirely a "sweet" gas, containing some 300 gallons of gasoline per million cubic feet of gas, or about the same gasoline content as the dry gas at Amarillo. There has been one casinghead gasoline plant operating in the Hugoton Field for several years and the Panhandle Eastern Pipe Line Company is now completing a gasoline plant at Liberal, Kansas, to treat the gas from Hugoton, as well as that from Amarillo. There is one small carbon black plant in the Hugoton Field in Grant County. Two of the major carbon companies have extensive acreage in the north part of the Hugoton Field.

#### Gas Reserves—Entire Hugoton Field

Two of the major pipe line companies, the Northern Natural Gas Company and the Panhandle Eastern Pipe Line Company, have been withdrawing gas from the Hugoton gas field. The total production handled by these pipe lines and the smaller local lines and gas used for field purposes up to the present time has approximated 100 billion cubic feet. The reduction in pressure caused by this withdrawal is surprisingly small,—the average rock pressure of the 59 wells from which the Company withdraws gas [fol. 14216] having been reduced from an average of 432 pounds initially to a present average pressure of 418 pounds per square inch. The past production and reduction in rock pressure in this field have been of too small proportions to form a basis for accurately estimating reserves. However, in so far as the productive history is subject to interpretation, the gas content per acre is indicated to be substantial. Several careful pressure tests made upon wells in the vicinity of wells from which large volumes of gas had been produced showed very little reduction in rock pressure. If we consider that the 100 billion cubic feet has been produced from an area within a mile of the producing wells, amounting to some 175,000 acres, the decline in rock pressure to date would indicate an ultimate production of at least 15,000 M cubic feet per acre, for this productive area.

Considerable weight, however, must be given to comparison of the size of the wells at Hugoton with those in the

Amarillo Field, where we have enough productive history to more accurately estimate reserves. The initial open flow capacity of the wells at Hugoton averaged 5,000 or 6,000 M cubic feet per day per well, compared with an average of 25,000 to 30,000 M cubic feet in the Amarillo Field. We have estimated the ultimate production in the entire Amarillo Field at 25 trillion cubic feet, or an average of approximately 18,000 M cubic feet per acre, and it is reasonable to assume, from present indications, that the average acreage content in the Hugoton Field will be considerably less than at Amarillo.

In estimating the recoverable gas per acre at Hugoton by the method of computing the porous volume of the gas-bearing reservoir, it may be assumed that the productive zone averages at least 50 feet in thickness and has a porosity of 20%, indicating recoverable reserves down to an estimated abandonment pressure of 50 pounds per square inch, of 10,000 M cubic feet per acre.

Considering all of the known factors, we feel that the present productive portion of the Hugoton Field will provide a future recoverable production of at least 10 million cubic feet per acre. It should be recognized that within the [fol. 14217] limits of this immense field, as now indicated by the outlying scattered wells, there are large areas still untested by the drill that may readily be found to contain less than 10 million cubic feet per acre, also that the size and limits of the field as it will eventually be developed can now be only generally anticipated. Hence, we estimate the present known gas reserves of the entire Hugoton Field at not less than 10 trillion cubic feet. This is equivalent to 1,000,000 acres at 10,000 M cubic feet per acre, or 1,250,000 acres at an average of 8,000 per acre, that may now be classified as proven, while further development may readily disclose substantially greater quantities.

#### Company Reserves at Hugoton

The location of the Panhandle Eastern Pipe Line Company's leases and acreage controlled under gas purchase contracts in the Hugoton Field is shown on the accompanying map. The Company's net interest in gas leases covers 112,243 proven and probable acres, of which 9,660

acres have been drilled and are producing. The Company controls 7,140 acres through gas purchase contracts and is obligated to deliver gas locally to Argus Pipe Line Company under gas sales contracts covering 12,108 acres. As shown in Table No. 7, we estimate the Company's reserves at 10,000 M cubic feet per acre for leases in this producing area, and 8,000 M cubic feet per acre within the proven and probable zone outside of the producing area. The Company's combined interest in leases and purchase and sales contracts enables it to control, for the supply of its main pipe line system, a total known gas reserve in excess of 1 trillion cubic feet. See Table No. 7.

#### The Amarillo and Hugoton Fields as a Unit

These two great fields are situated close together and the main pipe lines of the Panhandle Eastern Pipe Line Company and Northern Natural Gas Company are already connected to both fields. The Cities Service Gas Company holds important acreage in the Hugoton Field, which is also within ready connection distance to the Chicago line from Amarillo. The two fields taken together thus form a common source of supply for the long distance transmission lines to the east and northeast. The Amarillo Field [fol. 14218] is at present the larger of the two; it contains larger wells, it was developed first and during the period when so much gas was wastefully blown into the air in this field, it was more practical and economical to utilize the cheap Amarillo gas. However, the waste gas has now become less available, and further production of gas in the Amarillo Field will reduce the remaining pressure and available acreage to a point where more of the supply of gas for the large pipe lines will need be drawn from the Hugoton Field which is almost 100 miles nearer the distant markets.

The total production for these two fields for the twelve months ending July 31, 1936 is estimated as shown in Table No. 12 to approximate 664 billion cubic feet. Of this quantity, the pipe lines used 187 billion, the carbon black plants burned 184 billion, smaller quantities were utilized in oil field operations and shrinkage by gasoline extraction and the remainder was wasted by blowing to the air in the Amarillo Field. In addition to the Panhandle Eastern

Pipe Line Company's 22" line connecting with its main 24" pipe line system which transports gas eastward, finally reaching Detroit, the major pipe lines withdrawing gas from the Amarillo-Hugoton Fields include the Colorado Interstate Gas Company line to Denver, the Chicago line, the Northern Natural Gas Company line to Omaha and to Minneapolis and St. Paul, the Cities Service Gas Company line to Kansas City, the Consolidated Gas Utilities Company line to Wichita, the Lone Star Gas Company line to Fort Worth, the Northern Texas Utilities Company line to Wichita Falls, the lines to Amarillo and Lubbock, Texas. Several of these pipe lines are already operating at near maximum capacity. The pipe line systems are subject to further material increase in capacity, however, by the addition of compressor equipment and by partial looping of the pipe lines themselves, while it is not unlikely that in time additional lines may be built.

The carbon plants in Amarillo have been substantially increasing their gas requirements in recent years, as shown in Table No. 10. Several of the carbon companies are developing gas reserves in the Hugoton Field. While only one small carbon black plant has as yet been constructed [fol. 14219] in Kansas, the State Conservation Act of 1935 specifically permits the use of gas for carbon black manufacture and it is likely that the carbon black industry will further expand operations in the Amarillo-Hugoton area.

The Texas Conservation Act of 1935 has been held unconstitutional in so far as it might be construed to permit certain proration orders entered by the Texas Railroad Commission. Regardless of this, it is not reasonable to expect that an unnecessarily large wastage of gas will be permitted to continue for any considerable time.

As shown in Table No. 12, after adjusting actual production figures to give effect to the reduction during the past year in the quantities of gas wasted, as well as to the continually increasing utilization of gas, we estimate that the total present production of the Hugoton and Amarillo Fields taken together, is at the rate of approximately 600 billion cubic feet per year. Future expansion of pipe line and carbon black operation will no doubt materially in-

crease this figure to an extent that cannot be very accurately forecast, although it may readily reach a total of 750 or 800 billion cubic feet per year. Such an ultimate total production of gas may be compared with the combined recoverable reserves of these two fields, here estimated at approximately 30 trillion cubic feet. The reserves of the Amarillo-Hugoton Fields are thus sufficient to provide a supply of gas for all reasonably expected future requirements for many years to come,—at least 25 years.

### Company's Gas Supply

We have estimated that Panhandle Eastern Pipe Line Company now controls proven gas reserves for the supply of its main pipe line system, aggregating 1,874 billion cubic feet, of which 1,559 billion cubic feet are in the Company's own gas producing properties and 324 billion are in properties controlled under contract. The Company's gas wells and producing properties have previously been owned and operated by its producing subsidiary, Texas Interstate Pipe Line Company, which we are informed, has recently transferred all of its properties and operations to Panhandle Eastern Pipe Line Company. The total natural gas produced and purchased by Panhandle Eastern Pipe Line [fol. 14220] Company and subsidiaries for the twelve months ending September 30, 1936, amounted to 20.4 billion cubic feet. Sales of gas transported through the Company's main line have been increasing rapidly and substantial further improvement is anticipated, by reason of the completion during the past year of 22" pipe line to Detroit which will be supplied with gas passing through the Panhandle's main line system. The market for natural gas at Detroit is large, the market for industrial gas for heat treating and special industrial processes involved in the manufacture of automobiles and automobile accessories being one of the important potential markets for natural gas in the United States. The quantities of gas required for the Panhandle system after the development of the load at Detroit will depend upon the availability of gas in the field at reasonably low prices, the capacity of the system and the market for gas at satisfactory delivered prices. The market and the gas supply seem assured. The capacity of the pipe line, as increased by construction during the past year, is in the neighborhood of 120 million

cubic feet per day (all volumes at 16.4 pound base), or 25 to 28 billion feet per year, at the probable load factors. This capacity can be increased considerably by the addition of compressor equipment and could be further increased by the partial looping of the line, while total gas handled may be increased by improving the load factor. Engineers for the Company have estimated a gas requirement of 30 billion cubic feet (16.4 base) for the year 1937, with further expected growth of the market, estimated to require a supply of 43 billion cubic feet per year by 1941. Even with such a greatly expanded load, assuming that it may be attained, comparison with the estimated gas reserves controlled by the Company, indicates that it has an available supply of gas sufficient for more than 25 years.

#### Other Possibilities in Western Kansas

The Company's main transmission line passes through southwest and south-central Kansas, a region which is generally favorable for the future development of additional gas production. Petroleum and natural gas have been produced in the older fields in the southeastern portion of Kansas for the past 30 years. The underlying formations of southern Kansas are sedimentaries ranging in age from Pennsylvanian to Pre-Mississippian and are sufficiently undulating to afford numerous areas which structurally are favorable for the accumulation of natural gas.

Extensive natural gas developments have occurred during the past several years in the vicinity of Wichita and to the northwest along the Barton Arch. Several important new fields have recently been discovered including the Burrton Field near Hutchinson and the Rush County Gas Field. The opportunity for discovery of similar structures is favorable and there is much of western Kansas which still remains to be explored. In the final analysis, all of the major pipe lines withdrawing gas from the Amarillo-Hugoton area will have about the same ultimate life, since each draws from the common reservoir available to all; hence any additional fields that may be discovered near the source of supply of the major pipe lines will add to the common supply and ultimate life of all of them.

The Company has been producing and purchasing small quantities of gas in the old depleted shallow gas fields south of Kansas City, which are here estimated to provide a reserve of 10 billion cubic feet.

#### Valuation of Company's Gas Producing Properties and Leaseholds.

##### Properties in Producing Areas

These valuations are detailed in Tables No. 2 and 3. In the Amarillo Field we have estimated that the Company's leases in the actively producing area within ready connection distance from the Company's gathering lines contain gas reserves totalling 489 billion cubic feet and that its leases of the same classification in the Hugoton Field contain 310 billion, or a total reserve of 799 billion cubic feet. The Company also has considerable proven acreage, especially at Hugoton, in outlying areas, although not so readily subject to connection to its present pipe line system. Furthermore, it purchases large quantities of gas, under many purchase obligations covering substantial acreage, and will be subject to general programs of production and regulation whereby the major pipe lines are to some extent required to provide a market for independent producers. We have given consideration to the probable proportion between the future supply to be withdrawn from the Company's own acreage and that from its gas purchase contract acreage, comparing open flow capacity, reserves per acre, extent of acreage and costs of production and purchasing, as well as the position of the main pipe line system with respect to each of the two important fields, line capacity, and probable future markets. As a result of this study, we feel that for the purpose of judging the value of these properties, it is reasonable to anticipate a future production from this particular acreage over the next 25 years of 600 billion cubic feet, of which 375 billion will be from Amarillo and 225 billion from the Hugoton Field. Production may, and probably will, continue from these properties after 25 years, but so far as their present value is concerned we disregard profits which may accrue thereafter.

The value of gas at the well in the Amarillo Field is taken at \$.04 per M cubic feet and the Hugoton Field at

\$0.45. We have estimated operation, taxes and general expenses at \$.008 per M. cubic feet for both fields, from a consideration of the Company's actual costs, as presented in Table No. 13, as well as of costs generally in these fields. The estimated expenses are intended to allow for a decreased cost per M. cubic feet upon the immediate increase in production per well, for an increased expense when future production declines some years hence, and for a proper provision for overheads and contingencies. Royalties are computed at  $\frac{1}{8}$  of \$.04 in Amarillo and  $\frac{1}{8}$  of \$.05 in the Hugoton Field, as paid. Rentals are estimated at \$50,000 per year in each field, approximately equivalent to the present rate. Future development costs for the undrilled properties in the proven area are estimated at \$25,000 per well on the basis of about 440 acres per future well, a somewhat wider spacing than at present, and resulting in total estimated development costs of \$1,250,000 in each field.

The total net future returns from the Amarillo properties [fol. 14223] and leases are estimated at \$7,625,000, the present value of which, including present wells and well equipment, we place at \$3,000,000. The factor by which to discount expected future returns to arrive at their present value is a matter of judgment. In this case the future returns are estimated to accrue at a slightly increasing rate over the next 25 years. We have estimated the present value thereof at approximately 40%, which is equivalent to discounting the net future returns at 8% per year compound discount.

The estimated total net future returns of the Company's Hugoton properties in the producing area amount to \$4,418,750, the present value of which is placed at \$1,750,000.

#### Value of Company Acreage Outside of Producing Areas

In the Amarillo Field the Company has leases covering 5,490 acres in the proven sweet gas portion of the field but outside of the area we have classified as actively producing. We value this acreage at approximately \$10 per acre, or a total of \$55,000.00.

In the Hugoton Field the Company has a large number of scattered leases throughout the area classified as proven and probable but outside of the present producing area. While much of this acreage should ultimately prove to con-

tain 8,000 M cubic feet per acre, or more, the costs of constructing gathering lines necessary to collect gas throughout this large field will be a serious obstacle, which will probably lead to the release of much of the acreage in scattered areas and the accumulation of more concentrated blocks in localities favorable to the Company's gathering line system. We appraise the value of the Company's 81,231 acres in this classification at around \$3 per acre, or a total of \$244,000.00.

The Company also has leases covering 6,025 acres outside of the proven sweet gas area in the Amarillo Field, which we value at \$6,000. In the Hugoton Field the Company holds 51,445 acres outside of the proven and probable area, which we value at about \$.50 per acre, or \$25,000.00.

#### [fol. 14224] Total Valuation

As summarized in Table No. 1, we have estimated the total value of Panhandle Eastern Pipe Line Company's gas producing properties (including wells and well equipment) and gas leaseholds at \$5,080,000.00.

#### Summary and Conclusions

The Panhandle Eastern Pipe Line Company obtains its supply of gas from the Amarillo and Hugoton Fields, the combined reserves of which we estimate at approximately 30 trillion cubic feet. Gas is being produced in these two fields at the rate of approximately 600 billion cubic feet per year, and while this will no doubt increase considerably, these fields provide a supply sufficient for all probably uses for a period of more than 25 years.

The Company itself controls gas reserves under leases and gas purchase contracts estimated at 1,374 billion cubic feet. Its delivery requirements, which have increased to a present annual total approximating 20.4 billion cubic feet are expected to soon reach 30 billion and may thereafter increase to the order of 40 billion cubic feet per year.

After giving consideration to all of the known factors affecting the future supply and probable demand, it is our judgment that Panhandle Eastern Pipe Line Company will be able to obtain, at reasonable costs, supplies of natural gas sufficient for its market requirements for a period of not less than 25 years.

We have estimated the value of the Company's producing properties and proven leases in the actively producing areas of these two fields at \$4,750,000, and the value of its other leases at \$330,000.00, arriving at a total value of gas producing properties and leaseholds of \$5,080,000.00.

—RALPH E. DAVIS, INC.,  
Engineers.

By Ralph E. Davis.

February 8, 1937.

[Vol. 14227]

Table No. 2

Panhandle Eastern Pipe Line Company

Valuation of Producing and Proven Leases

in Producing Area of Amarillo Field

Estimated Reserves

Total 489,000,000 M cubic feet

Estimated Production during  
next 25 years 375,000,000 M cubic feet

Per  
M Cu Ft  
Produced

Estimated Revenue

375,000,000 M cubic feet \$ .04 \$15,000,000

Expenses

Operating, Taxes and General Expense .008 \$3,000,000

Royalties, 1/8 of \$ .04 .005 1,875,000

Rentals, \$50,000 per year 1,250,000

Total 6,125,000

Net Future Operating Revenue 8,875,000

Less Development Costs

50 Wells at \$25,000 1,250,000

Net Future Returns 7,625,000

Present Value, Including Present

Wells and Well Equipment \$ 3,000,000

[fol. 14228]

Table No. 3

Panhandle Eastern Pipe Line Company  
Valuation of Producing and Proven Leases  
in Producing Area of Hugoton Field.

Estimated Reserves

Total	310,000,000 M cubic feet
Estimated Production during next 25 years	225,000,000 M cubic feet

Estimated Revenue

225,000,000 M cubic feet

Per  
M Cu. Ft.  
Produced  
\$ .045

\$10,125,000

Expenses

Operating, Taxes and General Expense	008	\$1,800,000
Royalties 1/8 of \$.05	00625	1,406,250
Rentals, \$50,000 per Year		1,250,000

Total

4,456,250

Net Future Operating Revenue

5,668,750

Less Development Costs

1,250,000

Net Future Returns

4,418,750

Present Value, Including Present  
Wells and Well Equipment

\$ 1,750,000

[fol. 14233]

Table No. 8

Panhandle Eastern Pipe Line Company  
Classification of Acreage Under Lease

February 1, 1937

County	Number of Acres			
	Proven Producing	Proven and Probable Non-Producing	Outside of Proven Area	Total
<u>Amarillo Field</u>				
<u>Texas</u>				
Moore	1,646	23,451	960	29,057
Carson	3,000	1,060	3,386	8,046
Potter	2,080	2,650		4,730
Hutchinson	263	320	1,679	2,262
Total	10,589	27,481	6,025	44,095

Hugoton Area

<u>Texas</u>				
Sherman		2,160	5,445	7,605
Hansford		6,465	11,520	17,985
<u>Oklahoma</u>				
Texas		40,937	20,000	60,937
<u>Kansas</u>				
Haskell		5,400	—	5,400
Stevens	* 12,480	17,814	11,520	41,814
Seward		15,360	960	16,320
Morton	* 3,200	4,475	2,000	9,675
Grant		18,400	—	18,400
Total	15,680	111,011	51,445	178,136
Less 1/2 Interest	* 6,020	8,428	—	14,448
Total Net Interest	9,660	102,583	51,445	163,688
Total Acreage — Net	20,249	130,064	57,170	207,782

\*Note: The Company owns a 1/2 interest under 28,896 acres, 12,040 producing and 16,856 non-producing.

Of the 12,480 acres producing in Stevens Co., 9,160 acres are 1/2 int.

Of the 3,200 " " Morton Co., 2,880 " " " "

Total 12,040 " " " "

Net Company Interest 6,020 acres

[fol. 14243]

(Exhibit 76)

Panhandle Eastern Pipe Line Company

Natural Gas Supply

September 30, 1940

Ralph E. Davis, Inc.

Engineers

Pittsburgh and New York

[fol. 14244]

Ralph E. Davis, Inc.

Engineers

New York

150 Broadway

Petroleum and Natural Gas

1710 Union Bank Building

Pittsburgh

November twelfth,

Nineteen forty.

Board of Directors,  
Panhandle Eastern Pipe Line Company,  
New York, New York.

Gentlemen:

In accordance with your request, we have made a study as of September 30, 1940 of the natural gas supply available to your company. The gas produced and purchased by your company and the gas reserves available to it are located almost entirely in the Amarillo field of Texas and in the Hugoton field which includes portions of (a) southwestern Kansas, (b) the Oklahoma Panhandle, and (c) Sherman and Hansford Counties in northwest Texas. These fields together constitute one of the largest known reserves of natural gas.

The conclusions stated herein regarding the reserves of these fields are based upon engineering and geological studies we have made of both of these fields since they each became important as a source of supply of natural gas, including information made available to us in former detailed studies of your company's gas supply, and upon a recent study of both the Amarillo and Hugoton fields. Data regarding acreage controlled, wells owned or under gas purchase contracts, production of these wells and their pressure history have been furnished by officials of Panhandle Eastern Pipe Line Company.

Our most recent study of the Amarillo field indicates that the proven gas acreage covers an area of approximately 1,478,000 acres and that the recoverable gas reserves as of September 30, 1940 are not less than 17.0 trillion cubic feet. Your company owned on September [fol. 14245] 30, 1940 leases covering a total of 42,136 acres in the proven area of this field, this being approximately 2.85 per cent of the total proven area. Upon these lands there had been completed as of said date a total of 55 wells, 11 of which were completed subsequent to July 1939. The average closed pressure of 40 of these wells in June 1937 was 378.9 pounds. The closed pressure in July 1940 of these 55 wells was 358.9 pounds indicating an average pressure drop of 20.0 pounds in a three-year

period. The production of these wells from January 23, 1937 to September 22, 1940, a period of 3 years and 8 months, totaled 55,093,000 M cubic feet or an average production of more than 2 billion cubic feet per pound drop in pressure.

Your company owned gas purchase contracts as of September 30, 1940 covering 23,393 acres in the proven area of the Amarillo field upon which there had been completed a total of 53 wells. Thirty-eight of these wells had an average pressure in June 1937 of 311 pounds and the average of the 53 wells in June 1940 was 308 pounds. During the period from January 23, 1937 to September 22, 1940 these wells had delivered a total of 49,908,000 M cubic feet.

It is evident from the very substantial production obtained with a modest decline in pressure that the acreage upon which your company controls its gas supply in the Amarillo field has a very substantial productive capacity. The total proven acreage controlled through leasehold and through gas purchase contracts, namely 65,529 acres, is equal to about 4.43 per cent of the total proven area of the Amarillo field. It is our judgment that your company thus controls approximately this percentage of the total recoverable reserve, that is, approximately 750 billion cubic feet.

Of the company owned leases held on September 30, 1940 covering a total of 42,136.30 acres of proven gas lands in the Amarillo field, 30,005.7 acres are classed as producing acreage, having a proven gas reserve which we estimate at 361,769,000 M cubic feet. The remaining owned proven leaseholds, totalling 12,130.6 acres are classed as unoperated, and have an estimated gas reserve [fol. 14246] which we estimate at 146,254,000 M cubic feet. The gas purchase contracts owned by your company September 30, 1940, covering gas purchases in the Amarillo field, control the gas under 23,393 proven acres, all classed as operated and having a proven reserve which we estimate at 241,977,000 M cubic feet.

Our most recent study of the Hugoton field indicates the proven and semi-proven area to be not less than 2,000,000

acres and the total recoverable gas reserve as of December 31, 1939 to be not less than 15 trillion cubic feet. In the proven or semi-proven portion of this field your company owns full-interest leases covering 175,030 acres, also one-half interest in an additional 18,428 acres. The gas supply from the unowned one-half interest is under contract to your company, hence the reserves under 193,458 acres are thus controlled.

Your company owned as of September 30, 1940, 33 wells on its wholly-owned Hugoton leasehold acreage. The average pressure of 26 of these wells in June 1937 was 421 pounds and the average pressure of the 33 wells in July 1940 was 414 pounds. During the period from January 23, 1937 to September 22, 1940, these wells produced 11,384,000 M cubic feet.

On September 30, 1940 there had been completed 34 wells on the 18,428 acres in which your company owned one-half interest. Twenty-four of these wells had an average pressure in June 1937 of 415 pounds and the 34 wells had an average pressure in July 1940 of 411 pounds. During the period January 23, 1937 to September 22, 1940 these wells produced a total of 11,876,000 M cubic feet.

The company owned full-interest leases covering a total of 175,030.25 acres in the proven or semi-proven portion of the Hugoton field, include 19,090.95 acres classed as operated, and have a proven gas reserve estimated by us at 126,189,000 M cubic feet. The remaining 155,939.30 acres of full-interest leases are classed as unoperated, and have gas reserves estimated by us at 1,030,739,000 M cubic feet.

The fifty per cent interest owned by your company in [fol. 14247] 18,428 acres of proven or semi-proven leasehold property includes a total of 17,320 acres classed as operated, and have a gas reserve estimated by us at 114,483,000 M cubic feet. The remaining 1,108 acres are classed as unoperated and have an estimated gas reserve of 7,324,000 M cubic feet.

Your company owned on September 30, 1940 gas purchase contracts controlling 33,475 acres in the Hugoton field upon which there had been completed 68 gas wells. Fifty of these wells had an average pressure in June 1937 of 420 pounds and 67 wells had an average pressure in July 1940 of 415 pounds. These wells produced during the period January 23, 1937 to September 30, 1940 a total of 24,919,000 M cubic feet. These 33,475 acres are classed as operated and have a proven reserve which we estimate at 221,265,000 M cubic feet.

The total proven or semi-proven acreage controlled by your company in the Hugoton field through leasehold and gas purchase contracts on September 30, 1940 was 226,933 acres. This is more than 10 per cent of the total proven and semi-proven area as now defined. It is our judgment that your company thus controls gas reserves as of September 30, 1940 in the Hugoton field of not less than 10 per cent of the total reserve of said field, that is, not less than 1.5 trillion cubic feet.

Both the Amarillo and Hugoton fields constitute reservoirs of gas from which gas withdrawals will not necessarily be proportional to the reserves controlled by various producers. The reserves are, we believe, sufficient to meet the combined anticipated requirements for pipe line, carbon black and other uses for a period of more than 25 years.

The combined gas supply controlled by your company in the Amarillo and Hugoton fields is, in our judgment, adequate to supply its present markets and any reasonably anticipated increase in the gas requirements of said markets for a period of more than 25 years.

Very truly yours,

RALPH E. DAVIS, INC.,

By Ralph E. Davis,

President.

PANHANDLE EASTERN PIPE LINE COMPANY

SUMMARY OF ACREAGE - AMARILLO AND HUGOTON FIELDS

Leases Owned 100% By Panhandle Eastern Pipe Line Company

Leases Owned 50% By Panhandle Eastern Pipe Line Company and 50% By Associated Leases

Leases Covered By Gas Purchase Contract

September 30, 1940

	<u>Operated</u>	<u>Proven Unoperated</u>	<u>Total</u>	<u>Other Acreage</u>	<u>Total Acres</u>
<u>LEASES OWNED BY PANHANDLE EASTERN PIPE LINE COMPANY</u>					
<u>AMARILLO FIELD</u>					
<u>Texas - 100% Owned</u>					
Moore County	16,697.79	*11,474.60	28,172.39	-	28,172.39
Carson County	7,762.50	396.00	8,158.50	320.00	8,478.50
Potter County	5,282.81	180.00	5,462.81	-	5,462.81
Hutchinson County	262.60	80.00	342.60	-	342.60
<b>TOTAL AMARILLO FIELD</b>	<b>30,005.70</b>	<b>12,130.60</b>	<b>42,136.30</b>	<b>320.00</b>	<b>42,456.30</b>
<u>HUGOTON FIELD</u>					
<u>Kansas - 100% Owned</u>					
Seward County	-	13,360.00	13,360.00	1,280.00	14,640.00
Stevens County	13,650.95	21,440.00	35,090.95	-	35,090.95
Haskell County	-	3,480.00	3,480.00	-	3,480.00
Morton County	960.00	1,120.00	2,080.00	-	2,080.00
Grant County	4,480.00	25,320.00	29,800.00	-	29,800.00
	19,090.95	64,720.00	83,810.95	1,280.00	85,090.95
<u>Oklahoma - 100% Owned</u>					
Texas County	-	76,434.00	76,434.00	160.00	76,594.00
<u>Texas - 100% Owned</u>					
Sherman County	-	320.00	320.00	5,091.00	5,411.00
Hansford County	-	14,465.30	14,465.30	3,520.00	17,985.30
		14,785.30	14,785.30	8,611.00	23,396.30
<b>Total Hugoton Field - 100% Owned</b>	<b>19,090.95</b>	<b>155,939.30</b>	<b>175,030.25</b>	<b>10,051.00</b>	<b>185,081.25</b>
<u>Kansas - 50% Owned and 50% Under Gas Purchase Contract</u>					
Stevens County	8,120.00	308.00	8,428.00	-	8,428.00
Morton County	2,880.00	480.00	3,360.00	-	3,360.00
Grant County	6,320.00	320.00	6,640.00	-	6,640.00
<b>Total Hugoton Field - 50% Owned</b>	<b>17,320.00</b>	<b>1,108.00</b>	<b>18,428.00</b>		<b>18,428.00</b>
<b>TOTAL HUGOTON AREA</b>	<b>36,410.95</b>	<b>157,047.30</b>	<b>193,458.25</b>	<b>10,051.00</b>	<b>203,509.25</b>
<b>TOTAL LEASEHOLD ACREAGE, AMARILLO AND HUGOTON FIELDS</b>	<b>66,416.65</b>	<b>169,177.90</b>	<b>235,594.55</b>	<b>10,371.00</b>	<b>245,965.55</b>

LEASES COVERED BY GAS PURCHASE CONTRACT  
TO PANHANDLE EASTERN PIPE LINE COMPANY

AMARILLO FIELD

Texas

	<u>Proven</u>		
Moore County	15,979.00	-	15,979.00
Carson County	2,007.00	-	2,007.00
Carson and Hutchinson Counties	5,407.00	-	5,407.00
<b>Total - Amarillo Field</b>	<b>23,393.00</b>		<b>23,393.00</b>

<u>Texas - 100% Owned</u>					
Sherman County	-	320.00	320.00	5,091.00	5,411.00
Hansford County	-	14,465.30	14,465.30	3,520.00	17,985.30
		14,785.30	14,785.30	8,611.00	23,396.30
<hr/>					
Total Hugoton Field - 100% Owned	19,090.95	155,939.30	175,030.25	10,951.00	185,081.25
<hr/>					
<u>Kansas - 50% Owned and 50% Under Gas Purchase Contract</u>					
Stevens County	8,120.00	306.00	8,426.00	-	8,426.00
Morton County	2,880.00	480.00	3,360.00	-	3,360.00
Grant County	6,320.00	520.00	6,840.00	-	6,840.00
Total Hugoton Field - 50% Owned	17,320.00	1,106.00	18,426.00		18,426.00
<hr/>					
TOTAL HUGOTON AREA	36,410.95	157,047.30	193,456.25	10,951.00	203,509.25
<hr/>					
TOTAL LEASEHOLD ACREAGE, AMARILLO AND HUGOTON FIELDS	66,416.65	169,177.90	235,594.55	10,371.00	245,965.55
<hr/>					
<u>LEASES COVERED BY GAS PURCHASE CONTRACT TO PANHANDLE EASTERN PIPE LINE COMPANY</u>					
<hr/>					
<u>AMARILLO FIELD</u>		<u>Proven</u>			
<u>Texas</u>					
Moore County	15,979.00	-	15,979.00	-	15,979.00
Carson County	2,007.00	-	2,007.00	-	2,007.00
Carson and Hutchinson Counties	5,407.00	-	5,407.00	-	5,407.00
Total - Amarillo Field	23,393.00		23,393.00		23,393.00
<hr/>		<hr/>			
<u>HUGOTON FIELD</u>		<u>Proven and Semi-Proven</u>			
<u>Kansas</u>					
Stevens County	12,400.00	-	12,400.00	-	12,400.00
Morton County	2,040.00	-	2,040.00	-	2,040.00
Seward County	640.00	-	640.00	-	640.00
Grant County	18,395.00	-	18,395.00	-	18,395.00
Total - Hugoton Field	33,475.00		33,475.00		33,475.00
<hr/>					
TOTAL PURCHASE CONTRACT ACREAGE, AMARILLO AND HUGOTON FIELDS	56,868.00		56,868.00		56,868.00

\* Includes 640 acres which have expired but which are to be renewed.

4751 14248

[fol. 14251]

## Exhibit 77•

Michigan Gas Transmission Corporation,  
Description of Physical Property.[fol. 14252] Statement of Qualifications and Experience  
of George S. Young.

## 1. Name, address, and age:

George S. Young, Detroit, Michigan; age 42.

## 2. Present position:

Vice-President, Michigan Gas Transmission Corporation.

Director, Michigan Gas Transmission Corporation.

## 3. Education:

1920—Graduated from the United States Naval Academy.

1927—Graduated from Columbia University with a degree of Master of Science.

## 4. Business experience:

1920 to 1930—After graduation from the United States Naval Academy in 1920, I was engaged in the performance of various duties, mostly of a technical nature, in various types of naval vessels until 1925 when I was given an opportunity to take post-graduate work in engineering which was completed in 1927. Thereafter and until 1930, when I left the Navy, I performed engineering duties on board a battleship.

1930 to 1934—I entered the employment of the Columbia Engineering and Management Corporation, a subsidiary of the Columbia Gas & Electric Corporation, and continued in its employ until 1933, when the Columbia Engineering Corporation, also a Columbia Gas and Electric Corpor-

ation subsidiary, was organized and replaced the Columbia Engineering and Management Corporation. While in the [fol. 14253] employment of these Corporations, I was engaged chiefly in making engineering studies of natural gas projects and in the design, construction and operation of natural gas transmission facilities.

1934 to 1936—Upon the liquidation of the Columbia Engineering Corporation in 1934, I was transferred to the United Fuel Gas Company, Charleston, West Virginia, also a subsidiary of the Columbia Gas & Electric Corporation. I was engaged, while in the employment of the United Fuel Gas Company, in the same type of work, that is, making engineering studies of natural gas projects and in the design, construction and operation of natural gas transmission facilities.

1936—In 1936, I was employed by the Panhandle Eastern Pipe Line Company, Kansas City, Missouri, temporarily to assist in the design and construction of compressing stations which were built in 1936 between the Texas Panhandle Gas Field and the Illinois-Indiana State Line to increase the capacity of the Panhandle Eastern Pipe Line Company's system to deliver gas to the Indiana and Detroit Markets, which had been acquired by the Panhandle Eastern Pipe Line Company.

1936 to 1941—Upon completion of my temporary employment by the Panhandle Eastern Pipe Line Company, I was employed by the Michigan Gas Transmission Corporation, a subsidiary of Columbia Gas & Electric Corporation, as General Manager and established offices in Detroit on June 1,

1936. Except for a brief tour of duty in the United States Navy in 1941, I have [fol. 14254]. been employed by Michigan Gas Transmission Corporation since June 1, 1936. In December 1936, I was elected Vice President of the Michigan Gas Transmission Corporation and in May 1940, a Director. During this period of employment, I had some responsibility in connection with the construction of 231.23 miles of 22" O. D. pipe line and river crossings between Zionsville, Indiana, and Melvindale, Michigan. I have been responsible for the construction of all other additions to the Michigan Gas Transmission Corporation's property, for its operation and have personally conducted sales negotiations.

[fol. 14255] Preliminary Statement:

This exhibit is intended to present a general description of the physical properties of the Michigan Gas Transmission Corporation, its sources of supply, and the markets served. The description and schedules presented herewith cover only the major items installed as of June 30, 1941, and do not constitute an inventory of the Corporation's property.

General Description.

In 1931 Panhandle Eastern Pipe Line Company extended its main transmission line to the east bank of Raccoon Creek in the State of Indiana. The Indiana Gas Transmission Corporation was organized February 8, 1931, and as of September 15, 1931 acquired from Panhandle Eastern Pipe Line Company the pipe line in the State of Indiana which consisted of 25.89 miles of constructed 20" pipe line and 1.12 miles of 10 3/4" O. D. multiple crossings under the Wabash River and Raccoon Creek. At the same time, the Indiana Gas Transmission Corporation acquired 20.5 miles of 20" pipe and other materials with which to extend the pipe line which it acquired from Panhandle Eastern Pipe Line Company.

As of November 25, 1931, Indiana Gas Transmission Corporation acquired from the Ohio Fuel Gas Company services for the completion of approximately 20.5 miles of pipe line (the pipe and materials for which were acquired from Panhandle Eastern Pipe Line Company, as previously described in this statement), 23.70 miles of 20" pipe line, and 52.08 miles of 18" pipe line. This pipe line was still under construction when taken over by Indiana Gas Transmission Corporation but was completed shortly thereafter. The 20" pipe line belonging to the Indiana Gas Transmission Corporation then extended 71.21 miles from the Illinois-Indiana State Line to a point south of Zionsville, Indiana, and from this point, the 18" pipe line extended to Muncie, a distance of 52.08 miles.

Connections were made by Indiana Gas Transmission Corporation in the ensuing years to supply certain Public Utilities with natural gas for resale to Indiana communities in the vicinity of the pipe line.

In 1936 the Michigan Gas Transmission Corporation acquired through consolidation and merger all of the assets of Indiana Gas Transmission Corporation and constructed 228.78 miles of 22" O. D. pipe line and 2.47 miles of 12 3/4" O. D. multiple river crossings from Zionsville, Indiana to Melvindale, Michigan, to deliver gas for the account of Panhandle Eastern Pipe Line Company to the Detroit City Gas Company, now Michigan Consolidated Gas Company, for distribution in the Detroit area.

Subsequently:

1. Lateral pipe lines were constructed to deliver gas purchased from Panhandle Eastern Pipe Line Company to the Northern Indiana Public Service Company, Public Service Company of Indiana, and Kokomo Gas and Fuel Company for resale in Indiana communities.

2. Connections were made to deliver gas for the account of Panhandle Eastern Pipe Line Company to Toledo Edison Company, Ohio Gas, Light and Coke Company, Central States Natural Gas Company, Incorporated for resale in Ohio communities and to the Michigan Consolidated Gas Company for resale in Ann Arbor, Michigan.

Seventy-one communities in Indiana having a population of nearly one-half millions are served with gas purchased by Michigan Gas Transmission Corporation and sold to Public Utilities for distribution in those communities. Gas is delivered by Michigan Gas Transmission Corporation for the account of Panhandle Eastern Pipe Line Company to Public Utilities for distribution in forty communities in Ohio and Michigan having a population of nearly two millions.

The Michigan Gas Transmission Corporation system today, including lateral pipe lines, consists of four hundred and ninety-six miles of pipe of various sizes, has three compressor stations, forty-five regulating and measuring stations, as well as necessary warehouses and auxiliary structures. The Corporation also operates and maintains approximately thirty-one miles of 16" O. D. main pipe line and fifty-five miles of lateral pipe line in the states of Indiana and Ohio, which are the property of customers and affiliated companies, to transport natural gas for distribution in certain communities in Indiana and Ohio.

#### Source of Supply:

Michigan Gas Transmission Corporation secures its supply of natural gas from the Panhandle Eastern Pipe Line Company at the terminus of its present pipe line system at the Illinois-Indiana State Line in the vicinity of Dana, Indiana.

#### Description of Main Line:

Michigan Gas Transmission Corporation's main pipe line system extends from the terminus of the Panhandle Eastern Pipe Line in a generally easterly direction to the vicinity of Zionsville, Indiana, at which point two pipe lines diverge, one extending generally northeasterly to Melvindale, Michigan, and one in a general easterly direction to Muncie, Indiana. The original and loop lines are described in sections as follows:

1. Illinois-Indiana State Line to Montezuma Compressing Station.

2. Montezuma Compressing Station to Zionsville Compressing Station.

3. Zionsville Compressing Station to Muncie, Indiana.

4. Zionsville Compressing Station to Edgerton Compressing Station.

5. Edgerton Compressing Station to Melvindale, Michigan.

State Line to Montezuma:

The original pipe line from the Illinois-Indiana State Line to the west header of the Wabash River crossing consists of 8.15 miles of 20" O. D. x  $5/16$ " wall, single random length, lapwelded pipe, welded and coupled. The submerged river crossing consists of five  $10\frac{3}{4}$ " O. D. lines, each 4,473 feet long, solid welded from header to header. The distance between headers is .84 miles. The original pipe line extends 1.28 miles from the east bank of the Wabash River to Montezuma Compressing Station and this section consists of 20" O. D. x  $5/16$ " wall, single random length, lapwelded pipe, welded and coupled.

The loop pipe line from the Illinois-Indiana State Line to the west header of its crossing of the Wabash River consists of 4.19 miles of 24" O. D. x  $3/8$ " wall and 3.97 miles of 24" O. D. x  $5/16$ " wall, double random length, seamless pipe with a coupling at approximately every second joint. The submerged river crossing is .84 miles in length between headers and consists of two lines between headers. The two lines in the river bed consist of a total of [fol. 14259] 6,695 feet of 16" O. D. x  $3/8$ " wall and 2,221 feet of 16" O. D. x  $1/2$ " wall, double random length, seamless pipe solid welded from header to header and buried under the bed of the river.

The 1.27 miles of loop line extending from the east bank of the Wabash River to Montezuma Compressing Station consists of .23 miles of 24" O. D. x  $9/32$ " wall and 1.04 miles of 24" O. D. x  $5/16$ " wall, double random length, seamless pipe with coupling at approximately every second joint.

### Montezuma to Zionsville:

The original pipe line extending from Montezuma Compressing Station to the west header of the Raccoon Creek Crossing consists of 16.46 miles of 20" O. D. x 5/16" wall, single random length, lapwelded pipe, welded and coupled. The Raccoon Creek multiple crossing is .28 miles in length between headers and consists of four 10 3/4" O. D. x 1/2" wall lines, each 1,490 feet long, double random length, seamless pipe completely welded from header to header. Check valves are installed on the east bank in each of the four lines. The original pipe line between the east header of the Raccoon Creek crossing and Zionsville Compressing Station consists of 20.5 miles of 20" O. D. x 5/16" walls and 23.42 miles of 20" O. D. x 9/32" wall, double random length, seamless pipe, welded and coupled.

The 60.70 miles of loop pipe line between the Montezuma and Zionsville Compressing Stations consists of 5.92 miles of 24" O. D. x 9/32" wall and 54.78 miles of 24" O. D. x 5/16" wall, double random length, seamless pipe with a coupling at approximately every second joint.

### Zionsville to Muncie:

The main pipe line extending from Zionsville Compressing Station to the west bank of the White River consists of .28 miles of 20" O. D. x 9/32" wall, and 11.22 miles of 18" O. D. x 9/32" wall, double random length, seamless pipe, welded and coupled. The submerged White River crossing is .11 miles in length between headers and consists of four lines, each 566 feet long of 10 3/4" O. D. x 1/2" wall, double random length, seamless pipe completely welded from header to header. From the east header of the White River crossing to Muncie, the line consists of 40.75 miles of 18" O. D. x 9/32" wall, double random length, seamless pipe, welded and coupled.

### Zionsville to Edgerton:

The main pipe line extending from Zionsville Compressing Station to Edgerton Compressing Station consists of 107.56 miles of 22" O. D. x 5/16" wall, double random length seamless pipe with a coupling at approximately

every second joint and 1.07 miles of river crossing, each crossing consisting of four lines of  $12\frac{3}{4}$ " O. D. double random length, seamless pipe, completely welded between headers.

The distance from Zionsville to the south header of the Mississinewa River crossing is 53.10 miles.

The Mississinewa River crossing is .26 miles in length between headers and there are 1,036 feet of  $12\frac{3}{4}$ " O. D. x  $\frac{3}{8}$ " wall and 357 feet of  $12\frac{3}{4}$ " O. D. x  $\frac{1}{2}$ " wall pipe in each of the four lines. Check valves were installed in each line adjacent to the north header.

There are 27.38 miles of 22" O. D. pipe between the north header of the Mississinewa and south header of the Wabash River crossings.

The Wabash River crossing is .36 miles in length between [fol. 14261] headers. There are 1,652 feet of  $12\frac{3}{4}$ " O. D. x  $\frac{3}{8}$ " wall and 240 feet of  $12\frac{3}{4}$ " O. D. x  $\frac{1}{2}$ " wall pipe in each of the four lines.

There are 13.34 miles of 22" O. D. pipe between the north header of the Wabash River crossing and the south header of the St. Marys River crossing.

The St. Marys River crossing is .45 miles in length between headers. There are 2,135 feet of  $12\frac{3}{4}$ " O. D. x  $\frac{3}{8}$ " wall and 248 feet of  $12\frac{3}{4}$ " O. D. x  $\frac{1}{2}$ " wall pipe in each of the four river crossing lines.

There are 13.74 miles of 22" pipe between the north header of the St. Marys river crossing and Edgerton Compressing Station.

#### Edgerton To Melvindale:

The main pipe line between Edgerton Compressing Station and its terminus in Melvindale, Michigan, consists of 121.22 miles of 22" O. D. x  $\frac{5}{16}$ " wall, double random length, seamless pipe with coupling at approximately every second joint, and 1.40 miles of river crossings, each crossing consisting of four lines of  $12\frac{3}{4}$ " O. D. double random length, seamless pipe, completely welded between headers. Of the 22" O. D. main line, .36 miles were laid in Indiana, 66.95 miles in Ohio, and 53.91 miles in Michigan.

There are 24.51 miles of 22" O. D. pipe between Edgerton Compressing Station and the south header of Maumee River crossing, .36 miles of which are in Indiana and 24.15 miles in Ohio.

The Maumee River crossing is .25 miles in length between headers and there are 1,071 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{3}{8}$ " wall and 240 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{1}{2}$ " wall pipe in each of the four river crossing lines.

[fol. 14262]- There are 3.72 miles of 22" O. D. pipe between the north header of the Maumee River crossing and the south header of the Tiffin River crossing.

The Tiffin River crossing is .40 miles in length between headers and each of the four river crossing lines consists of 1,763 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{3}{8}$ " wall and 320 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{1}{2}$ " wall pipe. Check valves are installed in each of the river crossing lines adjacent to the north header.

There are 62.82 miles of 22" O. D. pipe between the north header of the Tiffin River crossing and the south header of the Raisin River crossing, 39.08 miles of which are in Ohio and 23.74 miles in Michigan.

The Raisin River crossing is .58 miles in length between headers and each of the four lines consists of 2,566 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{3}{8}$ " wall and 508 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{1}{2}$ " wall pipe. Check valves are installed in each of the river crossing lines adjacent to the north header.

There are 14.36 miles of 22" O. D. pipe between the north header of the Raisin River crossing and the south header of the Huron River crossing.

The Huron River crossing is .17 miles in length between headers and each of the four river crossing lines consists of 717 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{3}{8}$ " wall pipe and 183 feet of 12 $\frac{3}{4}$ " O. D. x  $\frac{1}{2}$ " wall pipe.

There are 10.85 miles of 22" O. D. pipe from the north header of the Huron River crossing to the Detroit Regulator Station in Allen Park, Michigan, and 4.96 miles of [fol. 14263] 22" O. D. pipe line from this point to the terminus of the line at the Detroit Measuring Station in Melvindale, Michigan.

## Compressing Stations:

As previously stated, Michigan Gas Transmission Corporation owns three compressing stations and Schedule 1 attached hereto lists those stations, shows the dates of the initial construction and additions, and the compressing horsepower installed.

## Distance Between Stations:

The pipe line mileages between the compressing stations and other points are as follows:

	Original Line	Loop Lines
1. State line to Montezuma	10.27	10.27
2. Montezuma to Zionsville	60.66	60.70
3. Zionsville to Muncie	52.36	—
4. Zionsville to Edgerton	108.63	—
5. Edgerton to Melvindale	122.62	—

## River Crossings:

As already stated and described, multiple pipe line submerged crossings are used where the pipe line passes under principal creeks and rivers. The multiple pipe lines are installed at these points to avoid, so far as possible, lengthy interruption of service which might result if a single line was installed. Each river crossing pipe line is provided with valves at each header to be used to isolate the line in event of a break. If required, the pipe lines are [fol. 14264] fitted with river clamps to prevent the pipe from floating. As already stated, check valves are installed near the downstream headers at certain crossings to bottle as much of the gas as possible in the line in event of a pipe line break.

## Lateral Lines:

In addition to the main pipe line system, the Michigan Gas Transmission Corporation owns and operates 57.98 miles of lateral pipe lines of various sizes and lengths, 57.91 miles in Indiana, .05 miles in Ohio, and .02 miles in Michigan. The Corporation also operates and maintains approximately fifty-five miles of lateral lines in Indiana and Ohio which are the property either of the public utilities to whom it sells gas or to whom it delivers gas for the

account of Panhandle Eastern Pipe Line Company, or the Ohio Fuel Gas Company.

The lateral pipe lines owned vary in size from two to six inches in diameter and from a few feet to over nineteen miles in length. Some of these lateral lines are equipped with a main line regulator setting to control the pressure in the lateral line itself. At each delivery point additional equipment is installed to effect further pressure regulation and to measure deliveries to the customers.

#### Protective Measures:

The 20" O. D. main pipe line from the Illinois-Indiana State Line to Raccoon Creek is protected against corrosion for its entire length by a paint coating. Between Raccoon Creek and Zionsville 2.06 miles of protective coating was applied to the 20" O. D. main pipe line where the pipe was laid in soil shown to be of a corrosive nature. Between [fol. 14265] Zionsville and Muncie 2.38 miles of the 18" main pipe line was similarly protected. The entire length of the 24" O. D. loop between the Illinois-Indiana State Line and Zionsville is covered with a protective coating of paint. The 22" O. D. main pipe line between Zionsville and Melvindale, Michigan, is coated for 186.90 miles of its length. All of the lateral pipe lines constructed since 1936 have been covered with a protective paint coating.

A minimum cover of 30" has been employed in the construction of the pipe lines. To avoid sharp pipe bends, the pipe is laid deeper at necessary locations at river and creek banks and in rough country. To protect the soil covering against erosion where the terrain is rough, numerous breakers and spillways of stone and concrete have been constructed.

The pipe lines through creeks, rivers and wet ground are weighted with weight clamps or concrete to prevent the pipe from floating to the surface. At locations where the pipe is bent, concrete blocks have been installed to balance the pipe thrust.

Valves were installed in the main lines at an average interval of approximately six miles. Each such valve setting is equipped with by-pass and blow-off connections.

These valves are used for sectionalizing the pipe line, a procedure normal to the operation and maintenance of gas transmission pipe lines.

#### Advantages of Loop Lines:

The original pipe line between the Illinois-Indiana State Line and the Zionsville Compressing Station, a distance of approximately seventy-one miles, is completely looped with a 24" O. D. pipe line to increase capacity. At each of the sectionalizing valves and on both banks of the Wabash [fol. 14266] River crossing, crossover connections are provided, thus making it possible to operate the lines with one or more sections of either pipe line isolated, which aids greatly in the maintenance of uninterrupted service.

#### Route of Gas:

Natural gas, from which the natural gasoline has been extracted and which has been dehydrated, is received by the Michigan Gas Transmission Corporation, from the Panhandle Eastern Pipe Line Company at the Illinois-Indiana State Line. The gas moves eastward to Montezuma Compressing Station where, in part, it is compressed and transported to the Zionsville Compressing Station. Gas distributed in the Muncie area is transmitted past the Zionsville Compressing Station without recompression. At Zionsville the deliveries made from the 22" O. D. pipe line extending to Melvindale, Michigan, are recompressed and transported, in part, to Edgerton Compressing Station. At Edgerton the gas is again recompressed into the line extending to its terminus in Melvindale, Michigan.

#### Communication System:

The Michigan Gas Transmission Corporation does not own a communication system but depends on Western Union, Postal/Telegraph, and the Bell Telephone System for communication.

#### Communities Served:

Schedule 2 attached hereto lists the principal communities served directly by the Michigan Gas Transmission

Corporation in Indiana with gas purchased from Panhandle Eastern Pipe Line Company and the principal communities in Ohio and Michigan to which gas is delivered for the account of Panhandle Eastern Pipe Line Company. [fol. 14267] Communities to be Served Soon:

Contracts have been signed by the Panhandle Eastern Pipe Line Company with public utilities owning distribution systems in Richmond and Greenfield, Indiana, to supply gas for these communities. The Michigan Gas Transmission Corporation will transport this gas for the account of Panhandle Eastern Pipe Line Company from the Illinois-Indiana State Line to the point of delivery in each case.

In addition, the Panhandle Eastern Pipe Line Company has contracted with public utilities owning distribution systems in Adrian, Albion, Battle Creek, Flint, Jackson, Kalamazoo, Owosso, Marshall, Pontiac, and more than eighty small communities in Michigan. Michigan Gas Transmission Corporation will transport this gas for the account of Panhandle Eastern Pipe Line Company from the Illinois-Indiana State Line to the point of junction with a pipe line system in Michigan to be constructed by the Panhandle Eastern Pipe Line Company.

#### Special Industrial Sales:

Contracts covering the sale of gas on an interruptible basis for industrial use are in force for sale to four public utilities for ultimate resale to sixteen special industrial consumers. Schedule 3 attached hereto is a list of these public utilities and shows the name and location of the special industrial consumers.

#### Compressing Station Equipment:

The size, type and capacity of the equipment in the different compressing stations varies to some extent, depending upon the requirements of the individual station, but is generally uniform. The attached Schedule 4 lists

the principal structures and the principal items of equipment in each of these stations.

#### [fol. 14268] Gas Measurement Equipment:

It is necessary in connection with the operation and maintenance of its forty-five regulating and measuring stations that the Corporation have equipment and tools especially suited to this work. A list of such equipment and tools is presented in Schedule 5.

#### Warehouses and Equipment:

The Transmission Department must at all times have on hand at strategic and convenient points along its pipe line system adequate quantities of emergency equipment, material, and supplies to maintain uninterrupted service to its customers. Such emergency equipment, material, and supplies together with automotive equipment is stored in four warehouses. Schedule 6 is a list and description of these warehouses and the major items of equipment located at each.

#### Automotive Equipment:

The Corporation owns and operates a total of twenty-five trucks and automobiles. A list and description of these cars and the departments by which they are used is given in Schedule 7.

#### Classifications of Pipe:

The attached Schedule 8 is a summary of the pipe in the lines of the Michigan Gas Transmission Corporation system. This includes only the pipe laid and in use in main lines and laterals and does not include pipe or other material in stock. The Schedule classifies the pipe according to use and size.

#### Photographs:

Schedule 9 is a collection of photographs showing typical structures and equipment in use by the Corporation. A notation on each photograph is self-explanatory.

## [fol. 14269] Pipe Line Breaks:

At about 2:40 A. M. Eastern Standard Time, January 8, 1937, the 20" pipe line, which Michigan Gas Transmission Corporation had acquired through merger from the Indiana Gas Transmission Corporation, broke at a point 23.93 miles east of Montezuma Compressing Station. The pipe pulled out of a coupling located four feet from a mitre weld at the break of a bank. The pressure at Montezuma Compressing Station, when the break occurred, was 440 pounds ~~per~~ square inch guage. Repairs were completed at 12:55 P. M. Eastern Standard Time, January 10, 1937. The time required to repair the break was 58 hours and 15 minutes.

At 7:45 Eastern Standard Time, January 14, 1937, another break occurred at the break of a bank 2.33 miles east of the first break and, as in the case of the first break, the pipe pulled out of a coupling located four feet from a mitre weld. The pressure at Montezuma when this break occurred was 375 pounds per square inch guage. Repairs were completed at 11:00 P. M. Eastern Standard Time, January 15, 1937. The time required to repair the break was 27 hours and 15 minutes. In the case of each of these breaks, several hours were required after repairs were completed to purge the pipe line, start the compressing stations and raise pressures to the point where normal service could be resumed.

It became apparent, in view of the type of construction which had been employed, that this pipe line would not stay in the ground under all weather conditions when operated at a pressure of approximately 450 pounds per square inch guage. The Construction Superintendent in charge of the construction of the 20" pipe line east of [fol. 14270] Raccoon Creek, with whom the construction was discussed at a later date, stated that the pipe line had been constructed for an operating pressure of from 325 to 350 pounds per square inch guage.

Immediately after the first break, reinforcement of the pipe line was undertaken by placing sacks filled with a mixture of one part cement and six parts sand at points where overbends occurred. About 50,000 sacks were

placed. While this work was being done and after the second break occurred, the line pressure was not permitted to exceed 300 pounds and the necessary additional gas requirements during this period over and above the line capacity at an operating pressure of 300 pounds per square inch guage were obtained from the Ohio Fuel Gas Company. [fol. 14270]

On January 23, 1937, pressure was raised to 325 pounds per square inch guage and on January 30, 1937, to 375 pounds per square inch guage, which was not exceeded during the balance of the winter period of 1936-37.

In order to permit operation of the line at a pressure of 450 pounds per square inch guage, it was decided to weld straps over the couplings which were located near bends in the pipe line and to place additional weight in the form of concrete at points where there were sharp overbends.

It was found also that where the 20" pipe line crossed Walnut Creek, it had been laid on the bed of the creek and there were two couplings under water. Split welding sleeves were welded over these two couplings and the line was anchored to the bed of the creek with straps and concrete anchors.

Since reinforcement of the line was completed, no further difficulty has been experienced with it when operating [fol. 14271] at a pressure of 450 pounds per square inch guage.

The following are approximate costs of each of the four operations beforementioned which were charged to Fixed Capital:

1. Weighting with sacks filled with a mixture of one part cement and six parts sand .....	\$39,800
2. Strapping Couplings .....	14,060
3. Weighting with concrete .....	10,400
4. Reinforcing Walnut Creek Crossing .....	14,900
<b>Total</b>	<b>\$79,160</b>

The cost of repairing the breaks was charged to operating expenses in the amount of \$7,052.64.

During the period that these breaks occurred, the Detroit City Gas Company, now Michigan Consolidated Gas Company, produced 873,846 therms of 980 B.t.u. carbureted water gas and Michigan Gas Transmission Corporation paid Michigan Consolidated Gas Company \$71,443.35 which was represented as the increment cost to Michigan Consolidated Gas Company of manufacturing gas during the emergency period. This amount was charged to operating expense.

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[Vol. 14272]

## Schedule 1

Michigan Gas Transmission Corporation  
Compressor Stations

Line No.	Name (A)	Initial Installation (B)	First Addition (C)	Second Addition (D)	Horsepower as of 6-30-41 (E)
1	Montezuma	2600HP - 1936	2600HP - 1937	2600HP - 1940	7,800
2	Zionsville	5200HP - 1937	1300HP - 1940		6,500
3	Edgerton	3900HP - 1940	2600HP - 1941*		3,900

Note: \*Construction Work in Progress

Line No.	Public Utility (A)	Ownership (B)	Community Served (C)	Approximate Population (D)	Estimated Number of Customers (E)
1	State of Indiana				
2	Central Indiana Gas Company	Consolidated Electric and Gas Company	Albany	1,623 )	
			Alexandria	4,801 )	
			Anderson	41,572 )	
			Chesterfield	581 )	
			Dunkirk	2,942 )	
			Eaton	1,453 )	
			Elwood	10,913 )	
			Fairmount	2,382 )	
			Farmland	914 )	
			Frankton	824 )	
			Gas City	3,488 )	
			Gaston	677 )	
			Hartford City	6,946 )	
			Jonesboro	1,791 )	30,3
			Marion	26,767 )	
			Middletown	1,520 )	
			Muncie	49,720 )	
			Parker	786 )	
			Redkey	1,538 )	
			* Selma	424 )	
			Summitville	991 )	
			Upland	900 )	
			Yorktown	906 )	
				<u>164,459</u>	<u>30,3</u>
3	Indiana Gas Distribution Corporation	Columbia Gas and Electric Corporation	Brownsburg	1,136 )	
			Carmel	771 )	
			Dana	845 )	
			Danville	2,093 )	1,7
			North Salem	511 )	
			Rockville	2,208 )	
			Zionsville	1,314 )	
				<u>8,878</u>	<u>1,7</u>
4	Indiana-Ohio Public Service Company	United Public Utilities Corporation	Portland	6,362 )	
			Winchester	5,303 )	3,33
			Union City	3,535 )	
				<u>15,200</u>	<u>3,33</u>

\* Resale to Selma Gas Company for distribution in Selma, Indiana

LIST OF COMMUNITIES RECEIVING SERVICE FROM PUBLIC UTILITIES TO WHOM MICHIGAN GAS TRANSMISSION CORPORATION SELLS GAS PURCHASED FROM PANHANDLE EASTERN PIPE LINE COMPANY, POPULATION AND NUMBER OF CUSTOMERS AS OF JUNE 30, 1941

Approximate Population (D)	Estimated Number of Customers (E)	Date of First Delivery (F)
1,623 )		
4,801 )		
41,572 )		
581 )		
2,942 )		
1,453 )		
10,913 )		
2,382 )		
914 )		
824 )		
3,488 )		
677 )		
6,946 )		
1,791 )	30,360	10/26/31
26,767 )		
1,520 )		
49,720 )		
786 )		
1,538 )		
424 )		
991 )		
900 )		
906 )		
<u>164,459</u>	<u>30,360</u>	
1,136 )		8/15/32
771 )		8/19/32
845 )		Oct. '32
2,093 )	1,744	9/11/34
511 )		7/28/34
2,208 )		10/17/32
1,314 )		8/8/32
<u>8,878</u>	<u>1,744</u>	
6,362 )		
5,303 )	3,333	11/7/34
3,535 )		
<u>15,200</u>	<u>3,333</u>	

Line No.	Public Utility (A)	Ownership (B)	Community Served (C)	Approximate Population (D)	Esti Numb Cust (E)
1	Kokomo Gas and Fuel Company	Independent	Kokomo	33,795	6
2	Lynn Natural Gas Company	United Public Utilities Corporation	Lynn	1,014	-
3	Northern Indiana Public Service Co.	Midland Utilities Company	Bluffton	5,417 )	
			Columbia City	4,219 )	
			Decatur	5,861 )	
			Fort Wayne	118,410 )	
			* Huntington	13,903 )	
			Kingsland	114 )	
			New Haven	1,872 )	29,
			Ossian	784 )	
			Preble	125 )	
			Roanoke	808 )	
			South Whitley	1,118 )	
			Tocsin	217 )	
			Yoder	264 )	
				153,112	29,
4	Pendleton Natural Gas Company	Independent	Huntsville	175 )	
			Pendleton	1,681 )	
				1,856	
5	Public Service Company of Indiana	Midland United Company	Atlanta	479 )	
			* Attica	3,760 )	8
			Cicero	943 )	
			Crawfordsville	11,089 )	
			Elston	125 )	
			Frankfort	13,706 )	
			Lafayette	28,798 )	
			Lebanon	6,529 )	22,0
			Linden	580 )	
			Mechanicsburg	119 )	
			New Castle	16,620 )	
			Noblesville	5,575 )	
			Romney	216 )	
			Tipton	5,101 )	
			Ulen	99 )	
			West Lafayette	6,270 )	
			* Williamsport	1,222 )	
				101,231	22,0

\* Resale to Northern Indiana Power Company for distribution in Attica, Huntington and Williamsport, Indiana

LIST OF COMMUNITIES RECEIVING SERVICE FROM PUBLIC  
UTILITIES TO WHOM MICHIGAN GAS TRANSMISSION  
CORPORATION SELLS GAS PURCHASED FROM PANHANDLE  
EASTERN PIPE LINE COMPANY, POPULATION AND NUMBER  
OF CUSTOMERS AS OF JUNE 30, 1941

Approximate Population (D)	Estimated Number of Customers (E)	Date of First Delivery (F)
<u>33,795</u>	<u>6,110</u>	<del>7/3/36</del> 11/2/37
<u>1,014</u>	<u>286</u>	<del>11/8/37</del>
5,417 )		10/12/37
4,219 )		10/24/38
5,861 )		10/14/37
118,410 )		10/22/37
13,903 )		10/24/38
114 )		10/14/37
1,872 )	29,457	10/22/37
784 )		10/14/37
125 )		10/14/37
808 )		10/22/37
1,118 )		10/24/38
217 )		10/14/37
264 )		10/14/37
<u>153,112</u>	<u>29,457</u>	
175 )	606	12/4/34
<u>1,681</u>		
<u>1,856</u>	<u>606</u>	
479 )		5/3/37
3,760 )		6/16/37
943 )		5/3/37
11,089 )		6/7/37
123 )		6/19/37
13,706 )		5/17/37
28,798 )		6/19/37
6,529 )	22,002	5/17/37
580 )		6/7/37
119 )		5/17/37
16,620 )		10/23/31
5,575 )		5/3/37
216 )		6/7/37
5,101 )		5/3/37
99 )		5/17/37
6,270 )		6/19/37
<u>1,222</u>		6/16/37
<u>101,231</u>	<u>22,002</u>	

LIST OF  
UTILITIES  
CORPORATIONS  
EASTERN

Line No.	Public Utility (A)	Ownership (B)	Community Served (C)	Approximate Population (D)	Estimated Number of Customers (E)
1	Town of Lapel	Town of Lapel	Lapel	<u>1,146</u>	<u>182</u>
2	Town of Montezuma	Town of Montezuma	Montezuma	<u>1,366</u>	<u>65</u>
3	Town of Pittsboro	Town of Pittsboro	Pittsboro	<u>510</u>	<u>91</u>
4	Town of Roachdale	Town of Roachdale	Roachdale	<u>736</u>	<u>107</u>

LIST OF COMMUNITIES RECEIVING SERVICE FROM PUBLIC  
UTILITIES TO WHOM MICHIGAN GAS TRANSMISSION  
CORPORATION SELLS GAS PURCHASED FROM PANHANDLE  
EASTERN PIPE LINE COMPANY, POPULATION AND NUMBER  
OF CUSTOMERS AS OF JUNE 30, 1941

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Approximate Population (D)	Estimated Number of Customers (E)	Date of First Delivery (F)
<u>1,146</u>	<u>182</u>	8/25/36
<u>1,366</u>	<u>65</u>	5/22/34
<u>510</u>	<u>91</u>	4/6/36
<u>736</u>	<u>107</u>	9/30/36

Line No.	Public Utility (A)	Ownership (B)	Community Served (C)	Approximate Population (D)	Es M C
1	<u>State of Michigan</u>				
2	Michigan Consolidated Gas Company	American Light and Traction Company	Ann Arbor Detroit	43,000 <u>1,900,000</u>	44
				<u>1,943,000</u>	45
3	National Utilities Company of Michigan	National Gas & Electric Corporation	Monroe Dundee Carlton Maybee	18,478 ) 1,699 ) 864 ) 390 ) <u>21,431</u>	
4	<u>State of Ohio</u>				
5	Central States Natural Gas Company, Inc.	Independent	Paulding	<u>1,903</u>	
6	Ohio Gas, Light and Coke Company	Great Lakes Utilities Company	Archbold Bryan Delta Edgerton Montpelier Napoleon Pettisville Stryker Wauseon	1,186 4,670 1,777 982 3,667 4,539 307 817 <u>2,880</u>	
				<u>20,825</u>	
7	The Toledo-Edison Company	The Toledo Light and Power Company	Defiance	<u>8,768</u>	
8	The Kentucky Natural Gas Corporation purchases gas from the Panhandle Eastern Pipe Line Company at the Illinois-Indiana State L transports this gas under the terms of a contract with Kentucky Natural Gas Corporation to the junction with the Kentucky Natur Montezuma Compressor Station.				

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SCHEDULE 2

PAGE 4

LIST OF COMMUNITIES RECEIVING SERVICE FROM PUBLIC  
UTILITIES TO WHOM MICHIGAN GAS TRANSMISSION  
CORPORATION DELIVERS GAS FOR THE ACCOUNT OF  
PANHANDLE EASTERN PIPE LINE COMPANY, POPULATION  
AND NUMBER OF CUSTOMERS AS OF JUNE 30, 1941

Approximate Population (D)	Estimated Number of Customers (E)	Date of First Delivery (F)
43,000	8,761	8/17/39
<u>1,900,000</u>	<u>442,017</u>	7/9/36
<u>1,943,000</u>	<u>450,778</u>	
18,478 )		
1,699 )	3,700	5/19/41
864 )		
<u>390 )</u>		
<u>21,431</u>	<u>3,700</u>	
<u>1,903</u>	<u>280</u>	7/5/39
1,186	334 )	
4,670	1,237 )	
1,777	230 )	
982	116 )	6/12/39
3,667	776 )	
4,539	802 )	
307	60 )	
817	201 )	
<u>2,880</u>	<u>606 )</u>	
<u>20,825</u>	<u>4,362</u>	
<u>8,768</u>	<u>1,378</u>	4/11/40

t the Illinois-Indiana State Line and the Michigan Gas Transmission Corporation  
nection with the Kentucky Natural Gas Corporation's pipe line on the site of

List Of Industrial Consumers Receiving Service  
On An Interruptible Basis Indirectly From  
Michigan Gas Transmission Corporation System  
June 30, 1941

Line No.	Customer Rendering Service (A)	Consumer (B)	Gas Used For (C)
1	Central Indiana Gas Company	Armstrong Cork Co. - Hart Glass Division, Dunkirk, Indiana	Manufacture of Glass Products.
2	Central Indiana Gas Company	Ball Bros., Muncie, Indiana	Manufacture of Glass Containers.
3	Central Indiana Gas Company	Eaton Canning Company, Eaton, Indiana	Canning of Vegetables.
4	Central Indiana Gas Company	Foster-Forbes Glass Co. Marion, Indiana	Manufacture of Glass Products.
5	Central Indiana Gas Company	General Motors Corp. Guide Lamp Division Anderson, Indiana	Boiler Fuel.
6	Central Indiana Gas Company	Johns-Manville Products Corporation Alexandria, Indiana	Manufacture of Glass Products.
7	Central Indiana Gas Company	Owens-Illinois Glass Co. Muncie and Gas City, Ind.	Manufacture of Glass Products.
8	Central Indiana Gas Company	Slick Glass Corporation Gas City, Indiana	Manufacture of Glass Products.
9	Central Indiana Gas Company	Sneath Glass Company Hartford City, Indiana	Manufacture of Glass Products.
10	Central Indiana Gas Company	Warfield Company Sterling Glass Division Lapel, Indiana	Manufacture of Glass Products.
11	Indiana Gas Distribution Corporation	Anchor-Hocking Glass Corp. Winchester, Indiana	Manufacture of Glass Containers.
12	Kokomo Gas and Fuel Company	Continental Steel Corp. Kokomo, Indiana	Manufacture of Steel.
13	Public Service Company of Indiana	Chrysler Corporation New Castle, Indiana	Manufacture of Automotive Parts.

List Of Industrial Consumers Receiving Service  
On An Interruptible Basis Indirectly From  
Michigan Gas Transmission Corporation System  
June 30, 1941 (Cont'd.)

Line No.	Customer Rendering Service (A)	Consumer (B)	Gas Used For (C)
14	Public Service Company of Indiana	Ingersoll Steel and Disc Division Borg-Warner Corporation New Castle, Indiana	Manufacture of Steel Products.
15	Public Service Company of Indiana	Ingram-Richardson Manu- facturing Company Frankfort, Indiana	Manufacture of Enameled Steel Products.
16	Public Service Company of Indiana	Mid-States Steel and Wire Company Crawfordsville, Indiana	Manufacture of Steel Products.

Line No.	Location (A)	2" I.D. (B)	3" I.D. (C)	4" I.D. (D)	6" I.D. (E)	10" I.D. (F)	12" I.D. (G)	16" O.D. (H)	18"
1	<u>Indiana</u>								
2	Main Line					5.79	4.29		
3	Loop Lines				.07	.10	.01	1.69	
4	Lateral Lines	.98	.01	13.29	43.63				
5	<u>Ohio</u>								
6	Main Line						2.57		
7	Lateral Lines	.02	.03						
8	<u>Michigan</u>								
9	Main Line						3.01		
10	Lateral Lines			.02					
11	Total for System	1.00	.04	13.31	43.70	5.89	9.88	1.69	

SCHEDULE 8

14295

MICHIGAN GAS TRANSMISSION CORPORATION

Summary of Miles of Pipe by Sizes  
June 30, 1941

<u>I.D.</u> <u>(J)</u>	<u>16" O.D.</u> <u>(H)</u>	<u>18" O.D.</u> <u>(I)</u>	<u>20" O.D.</u> <u>(J)</u>	<u>22" O.D.</u> <u>(K)</u>	<u>24" O.D.</u> <u>(L)</u>
29		51.97	70.08	107.92	
01	1.69				70.10
57				66.95	
01				53.92	
88	1.69	51.97	70.08	228.79	70.10

MICHIGAN GAS TRANSMISSION CORPORATION

Line No.	Distributing Company (A)	Connection (B)	Winter Period 1936-37		Winter Period 1937-38		Winter Period 1938-39		Winter Period 1939-40
			Provided Daily Capacity to Deliver Firm Gas - MCF (C)	Max. Daily Delivery of Firm Gas MCF (D)	Provided Daily Capacity to Deliver Firm Gas - MCF (E)	Max. Daily Delivery of Firm Gas MCF (F)	Provided Daily Capacity to Deliver Firm Gas - MCF (G)	Max. Daily Delivery of Firm Gas MCF (H)	
1	Michigan								
2	Michigan Consolidated Gas Co.	Detroit	58,000 <sup>a</sup>	51,695	84,000	64,006	84,000	77,954	90,000
3	Michigan Consolidated Gas Co.	Ann Arbor							1,000
4	Ohio								
5	Central States Natural Gas Co.	Paulding							
6	Ohio Gas, Light and Coke Co.	Wauseon							
7	Toledo Edison Company	Lefiance							
8	Western Ohio Public Service Co.	Hollandsburg				7 a			
9	Western Ohio Public Service Co.	New Paris				28 a			
10	Indiana								
11	Central Indiana Gas Co.	Fairmount							2,000
12	Central Indiana Gas Co.	Muncie	10,000	13,701 a	13,000	12,468	13,000	15,045	13,000
13	Indiana-Ohio Public Service Co.	Winchester	500	367 a	500	361	500	572	500
14	Kokomo Gas and Fuel Co.	Kokomo			1,800	518	1,800	854	2,000
15	Northern Ind. Public Service Co.	Fort Wayne			4,500	3,131	4,500	3,517	6,000
16	Public Service Co. of Indiana	Crawfordsville			1,500	1,215	1,500	1,175	2,000
17	Public Service Co. of Indiana	Letanoh			800	349	800	586	1,000
18	Public Service Co. of Indiana	New Castle	1,500	1,900 a	2,000	1,172	2,000	1,417	2,000
19	Public Service Co. of Indiana	Tipton			300	268	300	389	300
20	Small Towns and Rural Customers:								
21	Indiana Gas Distribution Corp.	Brownsburg		( 21 a		( 30 a		( 29 a	
22	Indiana Gas Distribution Corp.	Carmel		( 15 a		( 26 a		( 31 a	
23	Indiana Gas Distribution Corp.	Dana		( 16 a		( 18 a		( 21 a	
24	Indiana Gas Distribution Corp.	Danville		( 53 a		( 71 a		( 79 a	
25	Indiana Gas Distribution Corp.	North Salem		( 20 a		( 24 a		( 22 a	
26	Indiana Gas Distribution Corp.	Rockville		( 47 a		( 61 a		( 62 a	
27	Indiana Gas Distribution Corp.	Zionsville	600	( 37 a	600	( 61 a	600	( 62 a	
28	Indiana Gas Distribution Corp.	Rural Customers		( 25 a		( 41 a		( 61 a	
29	Lynn Natural Gas Co.	Lynn		( 35 a		( 42 a		( 43 a	
30	Ohio Fuel Gas Co.	Rural Customers		( 26 a		( 49 a		( 44 a	
31	Pendleton Natural Gas Co.	Pendleton		( 73 a		( 92 a		( 47 a	
32	Town of Lapel	Lapel		( 17 a		( 45 a		( 26 a	
33	Town of Montezuma	Montezuma		( 3 a		( 3 a		( 3 a	
34	Town of Pittsboro	Pittsboro		( 4 a		( 6 a		( 8 a	
35	Town of Roachdale	Roachdale		( 4 a		( 6 a		( 16 a	
36	Total		70,600	68,059	109,000	84,098	109,000	102,063	123,000
37	Date of Maximum Delivery			12-7-36		12-8-37		12-27-38	

38 Note: Provided Capacity calculated as of December 1 except for December 15, 1940.

39 a- Daily Deliveries not available - estimated from weekly and monthly charts.

40 b- Daily Delivery not available for one interruptible customer. Amount for January 18, 1940 estimated from reported total delivery for the month.

EXHIBIT 79

WITNESS YOUNG

CORPORATION

COMPARISON OF DAILY PROVIDED CAP. CITY  
TO DELIVER FIRM GAS WITH MAXIMUM DAILY  
DELIVERY OF FIRM GAS FROM SYSTEM OF  
MICHIGAN GAS TRANSMISSION CORPORATION

Winter Period 1938-39		Winter Period 1939-40		Winter Period 1940-41	
Daily Provided Daily	Max. Daily	Provided Daily	Max. Daily	Provided Daily	Max. Daily
of Capacity to	Delivery of	Capacity to	Delivery of	Capacity to	Delivery of
Deliver Firm	Firm Gas	Deliver Firm	Firm Gas	Deliver Firm	Firm Gas
Gas - MCF	MCF	Gas - MCF	MCF	Gas - MCF	MCF
(G)	(H)	(I)	(J)	(K)	(L)
84,000	77,954	90,000	95,945	125,000	125,383
		1,500	1,258	2,000	1,314
		100	46	100	43
		700	406	1,200	552
				350	94
13,000	15,045	2,000	1,567	2,500	1,277
500	572	13,000	9,035 b	2,200	9,619
1,800	854	600	439	600	466
4,500	3,517	2,200	993	2,200	1,122
1,500	1,175	6,800	5,023	9,000	6,411
800	586	2,200	2,367	3,900	3,009
2,000	1,417	1,300	692	1,300	619
300	389	2,200	1,599	2,000	1,484
		300	566	800	425
a	( 29 a		( 45 a		( 40 a
a	( 31 a		( 57 a		( 54 a
a	( 21 a		( 59 a		( 21 a
a	( 79 a		( 139 a		( 98 a
a	( 22 a		( 32 a		( 23 a
a	( 62 a		( 100 a		( 70 a
a	( 62 a	700	( 107 a	700	( 84 a
a	( 61 a		( 100 a		( 92 a
a	( 43 a		( 68 a		( 55 a
a	( 44 a		( 41 a		( 47 a
a	( 47 a		( 137 a		( 90 a
a	( 26 a		( 27 a		( 31 a
a	( 3 a		( 7 a		( 6 a
a	( 8 a		( 19 a		( 14 a
a	( 16 a		( 13 a		( 12 a
109,000	102,063	123,600	120,887	159,850	152,495
12-27-38		1-18-40		3-18-41	

## MICHIGAN GAS TRANSMISSION CORPORATION

COMPARISON OF DAILY PROVIDED CAPACITY TO DELIVER FIRM GAS WITH MAXIMUM DAILY DELIVERY OF FIRM GAS AND TOTAL DELIVERY OF GAS FROM THE PIPE LINES OWNED OR OPERATED BY MICHIGAN GAS TRANSMISSION CORPORATION FOR THE WINTER PERIOD OF 1941-1942 TO DATE  
FEBRUARY 27, 1942

Line No.	Distributing Company (A)	Connection (B)	Provided Daily Capacity to Deliver Firm Gas - MCF (C)	Maximum Daily Delivery of Firm Gas MCF.. (D)	Maximum Total Delivery of Gas MCF (E)
1	<u>Michigan</u>				
2	Michigan Consolidated Gas Co.	Detroit	125,000	109,343	109,343
3	Michigan Consolidated Gas Co.	Ann Arbor	2,000	1,575	1,575
4	National Utilities Co. of Michigan	Monroe	700	891	1,673
5	<u>Ohio</u>				
6	Central States Natural Gas Co.	Paulding	100	67	67
7	Ohio Gas, Light and Coke Co.	Wauseon	1,200	1,010	1,010
8	Toledo-Edison Co.	Defiance	500	184	184
9	Western-Ohio Public Service Co.	Hollandsbury	20	16*	16*
10	Western-Ohio Public Service Co.	New Paris	50	45*	41*
11	<u>Indiana</u>				
12	Central Indiana Gas Co.	Elwood	1,000	796	2,110
13	Central Indiana Gas Co.	Fairmount	1,500	2,507	4,995
14	Central Indiana Gas Co.	Muncie	8,200	11,248	21,345
15	Greenfield Gas Co., Inc.	Greenfield	400	178	178
16	Indiana Gas Distribution Corp.	Winchester			2,212
17	Indiana-Ohio Public Service Co.	Winchester	600	765	765
18	Kentucky Natural Gas Corp.	Montezuma			4,432
19	Kokomo Gas and Fuel Co.	Kokomo	2,200	1,142	1,713
20	Northern Indiana Public Service Co.	Fort Wayne	9,000	9,756	9,756
21	Public Service Co. of Indiana	Crawfordsville	3,900	5,188	5,418
22	Public Service Co. of Indiana	Lebanon	1,300	1,123	1,746
23	Public Service Co. of Indiana	New Castle	2,000	1,490	3,970
24	Public Service Co. of Indiana	Tipton	800	771	771
25	Richmond Gas Corp.	Richmond	1,070	1,147	1,147
26	Small Towns and Rural Customers:				
27	Indiana Gas Distribution Corp.	Brownsburg		60*	60*
28	Indiana Gas Distribution Corp.	Carmel		78*	78*
29	Indiana Gas Distribution Corp.	Dana		27*	27*
30	Indiana Gas Distribution Corp.	Danville		136*	136*
31	Indiana Gas Distribution Corp.	North Salem		27*	27*
32	Indiana Gas Distribution Corp.	Rockville		93*	93*
33	Indiana Gas Distribution Corp.	Zionsville	700	109*	109*
34	Indiana Gas Distribution Corp.	Rural Customers		112*	112*
35	Lynn Natural Gas Co.	Lynn		72*	72*
36	Ohio Fuel Gas Co.	Rural Customers		44*	44*
37	Pendleton Natural Gas Co.	Pendleton		122*	122*
38	Town of Lapel	Lapel		42*	42*
39	Town of Montezuma	Montezuma		8*	8*
40	Town of Pittsboro	Pittsboro		22*	22*
41	Town of Roachdale	Roachdale		16*	16*
42	Totals		162,240	150,210	175,435

Note: Maximum deliveries for winter period 1941-42 to date were made on Jan. 7, 1942.

\*Daily deliveries not available, quantities estimated from total deliveries for month of January, 1942.

(Exhibit 79-B.)

MICHIGAN GAS TRANSMISSION CORPORATION

TOTAL DELIVERY OF GAS FROM PIPE LINES OWNED AND OPERATED BY  
MICHIGAN GAS TRANSMISSION CORPORATION ON DAYS ON WHICH  
THE DELIVERY OF FIRM GAS FROM SYSTEM WAS THE MAXIMUM

Line No.	Distributing Company (A)	Connection (B)	Date of Maximum Delivery of Firm Gas			
			Dec. 7, 1936 (C)	Dec. 8, 1937 (D)	Dec. 27, 1938 (E)	Jan. (F)
1	<u>Michigan</u>					
2	Michigan Consolidated Gas Co.	Detroit	51,695	64,006	77,954	95
3	Michigan Consolidated Gas Co.	Ann Arbor				1
4	<u>Ohio</u>					
5	Central State Natural Gas Co.	Paulding				
6	Ohio Gas, Light and Coke Co.	Wauseon				
7	Toledo Edison Co.	Defiance				
8	Western-Ohio Public Service Co.	Hollandsburg		7*		
9	Western-Ohio Public Service Co.	New Paris		28*		
10	<u>Indiana</u>					
11	Central Indiana Gas Co.	Fairmount				2
12	Central Indiana Gas Co.	Muncie	13,701*	12,468	15,673	17
13	Central Indiana Gas Co.	Lapel				
14	Indiana Gas Distribution Corp.	Winchester	3,604	3,522	2,608	2
15	Indiana-Ohio Public Service Co.	Winchester	367*	361	572	
16	Kentucky Natural Gas Corp.	Montezuma			5,373	6
17	Kokomo Gas and Fuel Co.	Kokomo		518	854	1
18	Northern Indiana Public Service Co.	Fort Wayne		3,131	3,517	5
19	Public Service Co. of Indiana	Crawfordsville		1,215	1,405	2
20	Public Service Co. of Indiana	Lebanon		603	664	1
21	Public Service Co. of Indiana	Tipton		268	389	
22	Public Service Co. of Indiana	New Castle	1,900*	2,478	3,784	4
23	Small Towns and Rural Customers:					
24	Indiana Gas Distribution Corp.	Brownsburg	21*	30*	29*	
25	Indiana Gas Distribution Corp.	Carmel	15*	26*	31*	
26	Indiana Gas Distribution Corp.	Dana	16*	18*	21*	
27	Indiana Gas Distribution Corp.	Danville	53*	71*	79*	
28	Indiana Gas Distribution Corp.	North Salem	20*	24*	22*	
29	Indiana Gas Distribution Corp.	Rockville	47*	61*	62*	
30	Indiana Gas Distribution Corp.	Zionsville	37*	61*	62*	
31	Indiana Gas Distribution Corp.	Rural Customers	25*	41*	61*	
32	Lynn Natural Gas Co.	Lynn	35*	42*	43*	
33	Ohio Fuel Gas Co.	Rural Customers	26*	49*	44*	
34	Pendleton Natural Gas Co.	Pendleton	73*	92*	47*	
35	Town of Lapel	Lapel	17*	45*	26*	
36	Town of Montezuma	Montezuma	3*	3*	3*	
37	Town of Pittsboro	Pittsboro	4*	6*	8*	
38	Town of Roachdale	Roachdale	4*	6*	16*	
39	Totals		71,663	89,180	113,347	142,

Note: \*Daily Deliveries not available, quantities estimated from weekly and monthly charts.

D BY  
CH

## m Delivery of Firm Gas

. 27, 1938  
(E)Jan. 18, 1940  
(F)Mar. 18, 1941  
(G)

77,954

95,945  
1,258125,383  
1,31446  
40643  
552  
94

15,673

2,585  
17,2633,521  
20,659

2,608

2,484

472

572

439

4,128

5,373

6,385

466

854

1,319

5,738

3,517

5,023

1,598

1,405

2,636

6,411

664

1,152

3,284

389

566

1,161

3,784

4,262

425

3,706

29\*

45\*

40\*

31\*

57\*

54\*

21\*

59\*

21\*

79\*

139\*

98\*

22\*

32\*

23\*

62\*

100\*

70\*

62\*

107\*

84\*

61\*

100\*

92\*

43\*

68\*

55\*

44\*

41\*

47\*

47\*

137\*

90\*

26\*

27\*

31\*

3\*

7\*

6\*

8\*

19\*

14\*

16\*

13\*

12\*

113,347

142,720

179,692

[fol. 14314]

## Exhibit 80.

Report of Inspection by H. C. Lehn\* of Equipment in the Compressor Stations of the Michigan Gas Transmission Corporation.

The Worthington Pump and Machinery Corporation received a request from the Michigan Gas Transmission Corporation to furnish the services of an engineer for an inspection of the equipment in their compressor stations to determine the ratio between the value of the equipment when installed and its value as of June 30, 1941. The writer having been selected, visited the stations, inspected the equipment, and examined the station records on September 26th, 1941.

The main compressor equipment on this pipe line consists of horizontal, double acting, four cycle, twin tandem gas engines direct connected to the compressor cylinders, and in units of 1300 rated B.H.P. each. This is the standard type of equipment used generally in the main line compressor stations throughout the country.

There are three stations on the line which in the order of the dates of their construction and of their sequence in the direction of gas flow are located as follows:

=1—Near Montezuma, Indiana

=2—Near Zionsville, Indiana

=3—Near Edgerton, Indiana

It happened to be convenient to visit the stations in the reverse order, and the results of the inspection will be given in the latter order.

\*Consulting Engineer, Worthington Pump and Machinery Corporation, Buffalo, N. Y.

[fol. 14315] The procedure used in making the inspection was as follows: The external parts of the engines and other equipment were examined for evidence of defects or deterioration, and the character of operation of those units in service carefully noted. The station records

were then examined for hours of operation and amount of wear of the moving parts.

Before describing the detail findings, attention must be brought to some general conditions applying equally to all of the stations. While all are comparatively new, and Edgerton in particular has only been in operation eight months, so that normally no great physical deterioration should be observable, the condition of all of the equipment was remarkable in its lack of visible evidence of the actual length of service. While carefully searched for, no leaks of gas, water or oil were discovered on the main floors or in the basements. Frequent protective painting, some of which was in progress at the time of the inspection has contributed to maintaining the original condition and all parts scrupulously clean. In the writer's thirty-five years of experience he has not seen stations superior to these, in general fine appearance and evidence of careful and continuous maintenance. The staff is to be highly commended for producing and maintaining the conditions found.

Proceeding to the detail findings, it is evident from the foregoing that few definite or specific items of deterioration can be recorded.

[fol. 14316] Edgerton Station: The main 2 compressing equipment consists of three 1300 H.P. units in service as required, and two duplicate units in process of installation. This station was put in operation December 17, 1940, and on the date of inspection the station records showed that the units had operated the following number of hours:

±1—1084

±2—1094

±3—1062

None were in operation at the time of the inspection, not being required. This station is for all intents and purposes new. The total hours of operation are insufficient to develop appreciable wear of the moving parts, or to dismantle for the customary routine periodic inspection and overhaul. Nothing was found to mark down as deterioration at this station.

The auxiliary equipment consists of two 180 H.P. vertical six cylinder, four cycle gas engines with direct connected generators for station electric power, and the usual motor driven pumps, gas fired boiler for station heating, etc.

Some wear has developed in the main bearings of the power units, otherwise the units are in their original condition. No deterioration observable, or on the station records on the remainder of the auxiliary equipment.

Zionsville Station: The main compressor equipment consists of five 1300 H.P. units, four of which were installed in 1937, and one in 1940. As of the date of inspection the station records showed the following operating hours:

[fol. 14317]	#1—11908
	#2—14382
	#3—13166
	#4— 9708
	#5— 3581

Two units were in operation at the time of inspection. These were running quietly, no noise being detected at any of the bearings, indicating correct bearing clearance.

Cylinder liner wear on all units as shown by the station records was normal for the hours of operation, and showed the usual decrease in rate after the first few hours.

Piston rod wear recorded was also normal for the operating period and negligible in amount.

Auxiliary equipment: There are three gas engine electric units, duplicate of those at Edgerton stations, two installed in 1937 and one in 1940. Some main bearing wear recorded and one piston and liner worn and replaced. Some valve guards and inserts worn and replaced. On the power pumps sleeves and collars were worn.

Montezuma Station: The main compressor equipment consists of six 1300 H.P. units of which two were being installed in 1936, two in 1937, and two in 1940, these lat-

ter being  $\pm 1$  and  $\pm 6$ . As of the date of inspection, the station records show the following total operating hours:

[fol. 14318]  $\pm 1 - 2508$

$\pm 2 - 21233$

$\pm 3 - 21810$

$\pm 4 - 20168$

$\pm 5 - 19125$

$\pm 6 - 3927$

Three units were in operation at the time of inspection. The same conditions of quite operation indicative of correct bearing adjustment were found as at Zionsville station. The periodic overhaul on this station had recently been completed. It was not necessary to take up any of the bearings. The total bearing take up on any engine in four years is 2'1000".

With one exception, liner and piston rod wear is, like Zionsville Station, normal for the period of operation. The exception is one cylinder, which shows greater wear, but not sufficient yet to require a new liner.

Auxiliary Equipment: This is practically a duplicate of that at Zionsville. The recent overhaul showed normal wear on bearings. One set of piston rings was replaced in power unit  $\pm 2$ . Unit  $\pm 3$  was in process of overhaul at the time of inspection.

Outside Equipment: At all of the stations including exhaust mufflers, gate valves and piping above ground, cooler piping, showed no signs of deterioration.

From the foregoing it is evident that physical deterioration has caused little or no depreciation.

[fol. 14319] The power of the main compressor units is developed by horizontal, reciprocating, moderate speed, prime movers, and the principal features of their design were established in the first gas engine compressor units built forty years ago. In comparison with some other types the horizontal unit, in addition to its high economy and its being peculiarly adapted to the service, is of great

durability and corresponding low cost of maintenance. This is evidenced by the fact that the original three engines of the type built in 1901-02 are still in service as well as many others built in the early years. Since these first few units were built there has been considerable improvement in detail design and materials used and at the present time the type has reached a high degree of excellence as to detail but there has been no change in the principal features of design and little increase in efficiency. Reasons for the long useful life lie in the comparatively low speed, and in the fact that a great percentage of the weight and initial cost is in parts not subject to stress fatigue or wear, compared to more recent higher speed units. For example, in these units the moving parts are approximately 12% of the total weight, while in a modern length speed vertical diesel or gas engine they are approximately 21%. These weights of moving parts do not include the flywheels.

The company which I am connected with has built in the past forty years over 550 units of this type, totalling over 500,000 H.P. With few exceptions, these engines are all running at the present time. Some are out of service by reason of the gas becoming exhausted at their original location and not being required elsewhere. A number have been moved to different locations, in some cases two [fol. 14320] or three times. To my knowledge none have been abandoned due to their being worn out.

From my personal knowledge of the long life of this type of engine, and from the condition of the units inspected, and their total hours of service, I estimate the ratio of their present to their initial value as follows:

Edgerton: This station has had too few hours of operation to consider depreciation. In fact its value might be said to have increased since its initial start as its efficiency is higher, and at least part of the running in time and expense has been incurred. However, the station will not endure forever, and time has passed, so this station will be depreciated to 99%.

Zionsville: 97%

Montezuma: 96%

Auxiliary Equipment: in which is included all equipment other than the main units. This equipment is of a different type; of shorter life, and I estimate its present value ratio as follows:

Edgerton: As in the case of the main equipment and for the same reasons, 99%

Zionsville: 96%

Montezuma: 95%

Submitted by:

H. C. LEHN

[fol. 14321]

Exhibit 81

Michigan Gas Transmission Corporation

Depreciation Study

Lines A, B, and C

C-1350

1941

[fol. 14322] Columbia Engineering Corporation

Address Reply To

99 North Front Street

Columbus, Ohio

November 10, 1941

Mr. G. S. Young, Vice President  
Michigan Gas Transmission Corporation  
1316 United Artists Building  
Detroit, Michigan

Dear Mr. Young:

Enclosed herewith is a copy of the pipe inspection report covering 37 locations where the pipe was exposed for inspection on the property of the Michigan Gas Transmission Corporation in Ohio, Indiana, and Michigan.

This report is complete except for the strip maps of Lines, A, B, and C on which the pipe exposure locations were identified. I remain,

Yours very truly,

H. S. RIDDLE  
Gas Engineering Department

HSR:GLA  
Enc.

[fol. 14323] Michigan Gas Transmission Corporation  
Depreciation Study—Lines A, B, and C  
C-1350

### Summary of Inspection Data

#### All Transmission Lines Inspected

- |  |       |
|--|-------|
| (1) Average Overall Percent Condition—Main Pipe Lines .....    | 97.7% |
| (2) Average Overall Percent Condition—Lateral Pipe Lines ..... | 99.7% |
| (3) Average Overall Depth of Cover .....                       | 42.9" |

#### [fol. 14324] Line A

- |   |        |
|---|--------|
| Average Percent Condition—Coated Pipe .....     | 100.0% |
| Average Percent Condition—Pipe Not Coated ..... | 92.2%  |
| Average Depth of Cover .....                    | 39.8"  |

#### Line B

- |                                 |       |
|---------------------------------|-------|
| Average Percent Condition ..... | 86.7% |
| Average Depth of Cover .....    | 33.3" |

#### Line C

- |   |       |
|---|-------|
| Average Percent Condition—Coated Pipe .....     | 99.4% |
| Average Percent Condition—Pipe Not Coated ..... | 98.8% |
| Average Depth of Cover .....                    | 46.4" |

[fol. 14369]

## Exhibit 82

Michigan Gas Transmission Corporation

Accrued Depreciation

on

Compressor Station Structures

Measuring and Regulating Station Structures and  
Equipment

Other Transmission System Structures

and

General Equipment

as of

June 30, 1941

Francis S. Haberly

Consulting Engineer

Chicago

[fol. 14370] Michigan Gas Transmission Corporation

Accrued Depreciation

Compressor Station Structures

Measuring and Regulating Station Structures and Equip-  
ment

Other Transmission System Structures

General Equipment

The following is an explanation of the procedure fol-  
lowed in determining the extent of existing accrued depreci-  
ation on the property of the Michigan Gas Transmission  
Corporation included in the following accounts:

Account 352.1—Compressor Station Structures and Im-  
provements

Account 352.2—Measuring and Regulating Station Struc-  
tures and Improvements

Account 352.3—Other Transmission System Structures

Account 354.1—Compressor Station Equipment  
     Water Tanks and Foundations (only)  
     Cooling Towers and Foundations (only)

Account 354.2—Measuring and Regulating Station Equipment

Account 372 —Office Furniture and Fixtures

Account 373 —Transportation Equipment

Account 374 —Stores Equipment

Account 377 —Tools and Work Equipment

Inspections of the property were made by the witness, accompanied by his principal assistant, on August 13 and 14, and by the witness on September 26, 1941. On both occasions Mr. C. D. Alstadt, Superintendent of Transmission, Michigan Gas Transmission Corporation, accompanied the inspection party.

The buildings and structures at Montezuma, Zionsville, and Edgerton were inspected in detail. These structures comprise all of the compressor station and miscellaneous transmission system structures on the property. In addition, measuring and regulating station structures and equipment were inspected, aggregating in excess of 75 per cent of the investment in structures and 65 percent of the total investment in equipment. In the course of these inspections, and as a result of considerable time spent in the company's offices both at Detroit, Michigan and Fort Wayne, Indiana, practically all of the general equipment, such as furniture, was seen or examined.

Virtually all of the structures have been built or installed since 1936 and, therefore, are comparatively new and of the most modern type of construction. Montezuma compressor station was constructed in 1936 and important extensions and additions were made in both 1937 and 1940; Zionsville compressor station was constructed in 1937, with important extensions and additions in 1940; and Edgerton compressor station was constructed in 1940 and additions and extensions are now under construction.

The witness has inspected many properties, including street railway, electric light and power, and artificial and natural gas properties, and has never seen an entire property in an equally high state of maintenance. Signs of age, wear, weathering, or deterioration were practically non-existent. The entire property was clean and orderly, well painted, in excellent repair, well arranged, and gave evidence of exceptionally fine housekeeping.

### Structures at Compressor Stations

In the inspection of the property at the compressor stations, little could be found indicating depreciation due to physical deterioration. The only evidences of depreciation were minor cracks in foundations and floors which could be repaired readily and which have little or no detrimental effect.

The structural steel framework, steel sash, glazing transite and steel siding and roofs, lighting, and, in fact, all [fol. 14372] other parts of the structures were physically in substantially 100 percent condition.

\* In arriving at condition percents for these structures, and for other property discussed below, consideration was given to the effect of wear and tear, action of the elements, the degree of serviceability, the state of maintenance, and obsolescence, as well as to the age and probable future life in use.

The high standard of maintenance obtaining on this property results in an almost complete lack of wear or deterioration. The condition of the property offers strong evidence supporting the fact that well maintained property deteriorates less rapidly in its early life than in later years.

The condition percents as set forth below give substantial consideration to age and are materially lower than could be justified by a consideration of physical condition alone.

The condition percents for the various stations are as follows:

Condition  
PercentAccount 352.1 — Compressor Station Structures  
and Improvements.Montezuma

1936 Construction	94.8
1937 Construction	96.0
1940 Construction	98.1

Zionsville

1937 Construction	96.0
1940 Construction	97.9

Egerton

1940 Construction	97.7
-------------------	------

## Account 352.3 — Other Transmission System Structures

Montezuma	89.0
Zionsville	93.0
Egerton	98.0

## [fol. 14373] Account 354.1 — Compressor Station Equipment

Montezuma

Water Tank and Foundation	96.0
Cooling Tower and Foundation	94.0

Zionsville

Water Tank and Foundation	97.6
Cooling Tower and Foundation	93.0

Egerton

Water Tank and Foundation	99.0
Cooling Tower and Foundation	97.0

Measuring and Regulating Station Structures and Equip-  
ment

The measuring and regulating station structures and the equipment, piping, valves, gauges, meters, etc. housed therein, showed little or no visible signs of deterioration and were found to be in the same high state of maintenance and excellent physical condition as was found for the compressor station structures.

The condition percents for the stations erected in various years are as follows:

## Account 352.2—Measuring and Regulating Station Structures

## Account 354.2—Measuring and Regulating Station Equipment

	Condition Structures	Percent Equipment
Fort Wayne Measuring and Regulating Station, 1937	80 0	93 0
Detroit Measuring Station, 1936	96 0	91 0
Detroit Regulating Station, 1937-1940	97 7	96 0
All Other Locations		
1931	77 0	77 0
1932	80 0	80 0
1934	86 0	86 0
1935	89 0	89 0
1936	91 0	91 0
1937	93 0	93 0
1938	95 0	95 0
1939	97 0	97 0
1940-1941	99 0	99 0

[fol. 14374] General Equipment

The property included under this heading consists of office furniture and fixtures, storeroom equipment, automobiles, trucks, tractors, concrete mixers, portable pumps, and small tools. Such property has relatively short life. This equipment was found to be in very good physical condition, well maintained and repaired, and, for the most part, of recent purchase. In placing condition percents on much of this property, such as automobiles, trucks, calculating machines, typewriters, etc., consideration was given to the salvage or trade-in value which would probably be realized when the property was replaced or retired.

The condition percents for the general equipment accounts are as follows:

	Condition Percent
Account 372—Office Furniture and Equipment	78.0
Account 373—Transportation Equipment	71.0
Account 374—Stores Equipment	90.0
Account 377—Tools and Work Equipment	79.0

[fol. 14375]

Exhibit 83.

Michigan Gas Transmission Corporation

Reproduction Cost New  
of  
Plant and Property  
As Of

June 30, 1944

Exclusive Of

Working Capital, Materials and Supplies,

Cost of Developing Business or Going Value

Francis S. Haberly  
Consulting Engineer  
Chicago

[fol. 14377]

Francis S. Haberly,  
Engineer

122 South Michigan Avenue  
Chicago

October 27, 1944

Mr. G. S. Young, Vice President  
Michigan Gas Transmission Corporation  
1716 United Artists Building  
Detroit, Michigan

Dear Mr. Young:

Pursuant to your request, I have made an estimate of the cost of reproduction new of the plant and property of the Michigan Gas Transmission Corporation as of June 30, 1944.

This cost is exclusive of Working Capital, Materials and Supplies, Cost of Developing Business, and Going Value. Land and land rights are included at original costs as furnished to me by the company.

Reproduction costs were obtained by the application of cost indexes (prepared with especial reference to the vari-

ous items of this property) to the costs of such items at the time of installation.

In my opinion, the reproduction cost new as above outlined is \$11,168,481. An explanation of the method used in the determination of this cost, together with details by accounts, is enclosed.

Yours very truly,

FRANCIS S. HABERLY.

PSH:LE

[fol. T4378] Michigan Gas Transmission Corporation  
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[fol. 14379] Education and Experience.

My name is Francis S. Haberly. I live in Chicago, Illinois, and my profession is that of a consulting engineer. My offices are at 122 South Michigan Avenue, Chicago.

I was educated in grade and high schools at Fort Wayne, Indiana, completing the latter in 1914. This schooling was supplemented by intensive engineering study on my own part, together with extension courses in engineering and business administration. I was further benefited by practical experience as an apprentice in the student course of the General Electric Company at Fort Wayne, Indiana.

In 1916, following my student training, I entered the Engineering Department in the Fort Wayne and Northern Indiana Traction Company (now Indiana Service Corporation). After a summer spent as a laborer on construction and maintenance work, I became a draftsman and general assistant to the Engineer of Way and Structures and to the Superintendent of Overhead Construction. Later I became an assistant engineer, my duties consisting of design, surveys, and engineering for construction and maintenance of the track, structures and overhead. In 1917, under the personal direction of the President of the company, the late Robert M. Feustel, I made an appraisal of a large part of the company's street and interurban railway property.

Following two years in the Army as an officer of artillery, I joined the consulting engineering staff of Robert M. [fol. 14380] Feustel and was employed by him until he disbanded his organization in 1924, my duties being principally in connection with valuation and appraisal work. Such work included the following:

Indiana Service Corporation at Fort Wayne, Indiana in 1919. This was a repricing and bringing down to date of the appraisal which I had made in 1917 prior to my entry into the Army. This work was done largely by the use of indexes.

Nashville Railway and Light Company in Nashville, Tennessee in 1920. This was an inventory and unit cost appraisal of railway and light and power property. The original cost was also determined, partly upon the basis of book analysis and partly by the use of indexes.

Great Northern Paper Company, Millinocket, Maine in 1920. This was an inventory and unit price appraisal for tax purposes.

Philadelphia Rapid Transit Company, Philadelphia, Pennsylvania, in 1921 and 1922. This was an inventory and unit price reproduction cost appraisal with original cost being determined by detailed indexes. Mr. Feustel in this case represented the City of Philadelphia.

Frankford Elevated Company, Philadelphia, Pennsylvania in 1922. This work consisted of setting up property costs of the city-owned elevated.

Tennessee Electric Power Company, Chattanooga, Tennessee in 1923 and 1924. This was an inventory and unit price appraisal of street railway, light and power, and [fol. 14381] hydro electric property. Reproduction costs at various other price levels were obtained by indexes.

In April, 1924 I took a temporary assignment as special assistant to the General Manager of the Tennessee Electric Power Company in matters connected with rate analysis, valuation and preparation of technical exhibits for court cases involving rates and valuation.

In December, 1924 I was employed by Mr. William E. Sloan, of Chicago, on valuations of the New England Telephone and Telegraph Company with property in five of the six New England States; the Cincinnati & Suburban Telephone Company and the Ohio Bell Telephone Company.

In May, 1926, following my work with Mr. Sloan, I was employed by the late Albert S. Richey and remained with him, first, as an employee and, later, as an associate, until his death in June, 1936. Mr. Richey was Professor of Electrical Engineering at Worcester Polytechnic Institute, at Worcester, Massachusetts, as well as a nationally-known engineering consultant.

During my association with Mr. Richey I was actively connected with or in responsible charge of the following appraisals:

United Traction Company, Albany, New York in 1926. This work consisted of checking an appraisal made by the

company and determining costs at various price levels by indexes. Mr. Richey, in this case, represented the City of Albany.

Nashville Railway and Light Company, Nashville, Tennessee in 1926 and 1927. This was an inventory and unit price appraisal of street railway and light and power property [fol. 14382] on which I had worked in 1920 under Mr. Feustel. In this case Mr. Richey represented the State Commission.

The Tennessee Electric Power Company in 1927 and 1928. This was an inventory and unit price appraisal of property on part of which I had worked in 1923 under Mr. Feustel. The property included one street railway system, considerable hydro-electric property, electric generating, transmission, and distribution systems covering more than one-half of the state, and several water companies. It is this property which was sold to the T. V. A. and is now operated by it. Indexes were used on minor parts of this work. Mr. Richey, in this case, again represented the State Commission.

The Southern Public Utilities, in North and South Carolina, in 1929. This was an inventory and unit price appraisal of street railway, light and power, and gas property. For this work I took leave of absence from Mr. Richey and was employed by Jackson and Moreland, of Boston, Massachusetts.

In 1930 I returned to Mr. Richey's employ and made an inventory and unit price appraisal of that part of the Third Avenue Railway System located in Westchester County, New York. In 1931 this appraisal was repriced and brought down to date by means of indexes.

Other jobs of lesser importance during the period 1931 to 1935 included the following:

[fol. 14383] Toledo, Bowling Green and Southern Traction Company; Conestoga Traction Company, Conestoga,

Pennsylvania; Omaha and Council Bluffs Street Railway Company; Chicago, North Shore and Milwaukee Railroad Company; Ottawa Electric Railway Company; and Sioux City Gas and Electric Company. My work in this latter case consisted of the development of indexes for the gas property.

In 1933, an appraisal of the Louisville Gas and Electric Company, in Louisville, Kentucky, was made by the use of indexes. This work covered electric light and power, natural gas fields and gas transmission lines, artificial gas plants and the attendant distribution system.

Public Service Company of Northern Illinois in 1933. This was a valuation of light, power and gas property made by the use of indexes. An appraisal made by the application of unit prices to the same property, as of the same date, by other independent engineers, produced results differing by five percent.

Commonwealth Edison Company, Chicago District Electric Generating Corporation and Super-Power Company of Illinois, in Chicago, in 1934 to 1936. This was an appraisal of the electric light and power property in the City of Chicago in which reproduction cost was obtained by the application of detailed indexes to the original cost. An appraisal made by the application of unit prices to the Commonwealth Edison property, as of the same date, by other independent engineers, produced results differing by 1.7 percent.

[fol. 14384] Chicago Rapid Transit Company, Chicago, Illinois, in 1936. This was an appraisal made by the use of indexes for tax purposes.

The Peoples Gas Light and Coke Company in 1935 to 1938. This was an appraisal of the gas property in Chicago in which reproduction cost was obtained by the application of detailed indexes to the original cost. Here, again, an appraisal made by the application of unit prices to the same property, as of the same date, by other independent engineers, produced results differing by 1.6 percent.

In June, 1936 Mr. Richey died suddenly and I have since carried on the business under my own name. I continued such work of Mr. Richey's as was then in progress. This work consisted of presenting the testimony in The Peoples Gas Light and Coke Company case and of making a re-evaluation as of a later date.

Valuation work done by me since that time has included a tax valuation of a part of the Third Avenue Railway System in New York, in 1938; an inventory including the setting up of property records, for the Montreal Light, Heat and Power Consolidated in Montreal, Quebec, in 1939 and 1940; and, in the same two years, an inventory and unit price appraisal of the properties of the Pittsburgh Railways Company for purposes of reorganization.

At the present time I am engaged in making appraisals of the property of the Chicago Rapid Transit Company, the Chicago Surface Lines, and the Chicago Motor Coach Company, all in Chicago. These last three named valuations [fol. 14385] are being prepared by the application of indexes to previous appraisals or to original cost.

There are currently prepared in my office construction cost indexes of electric light and power, artificial gas, and electric railway properties which reflect the variation in construction costs of typical properties, exclusive of land, on a nation-wide basis.

I am a member of the American Institute of Electrical Engineers and a member of the American Transit Association.

[fol. 14386] Michigan Gas Transmission Corporation

#### Purpose of Exhibit and Methods Used

This exhibit is an estimate of the cost of reproduction new of the plant and property of the Michigan Gas Transmission Corporation as of June 30, 1941, exclusive of working capital, materials and supplies, cost of developing business, or going value.

The method used in arriving at the reproduction cost has been by the application of specific indexes of equipment, materials, labor and other installation costs to the

original costs as obtained from an analysis of the company's records.

Cost of reproduction new is taken as the amount in dollars necessary to be expended to reproduce the existing plant under the original conditions of weather, soil and grade, and predicated upon the same contingencies as were actually encountered during the construction of the property. Trending by means of index numbers involves no estimates of labor performance other than reflection of improvements in methods of construction; nor does it involve percentage allowances for warehousing, loss and breakage, supervision, use of tools and equipment, or contingencies. These items form an integral part of the original cost constituting the inventory of dollars which has been repriced by the application of indexes.

Land and Land Rights were furnished by the company and are included at original cost.

The original costs used for trending purposes were obtained by an analysis of company records, including property records, construction ledgers, vouchers, bills, contracts [fol. 14387] tors' final estimates, payrolls, etc. The purpose of the analysis was to obtain costs in such form as to permit the application of indexes to individual items of property installed in the various years. Unit costs of pipe per ton, labor per hour or per foot of pipe, etc. were also investigated.

Basic data for the development of the indexes were obtained from manufacturers of equipment and machinery, from current price quotations as shown in trade publications, from catalogs and price lists, from government publications, and from contractors, and were checked wherever possible with actual costs incurred during the construction of the property.

Building material trends were established for basic commodities, such as cement, sand, stone, lumber, structural steel, etc., and were weighted in proper proportion for application to the original costs of concrete, carpentry, steel work, etc.

Equipment indexes for the main compressors and auxiliary engines were computed from the actual prices paid for such equipment by the company. The trends for other items of equipment were based upon information from manufacturers or from data in our files.

The indexes of labor for construction of the station buildings and for the installation of station equipment were developed largely from actual rates paid at the various periods of construction compared with those currently being paid for construction work now in progress. Much of the earlier construction was done with non-union labor, whereas today it probably would have to be done by union labor.

[fol. 14388] The indexes for steel pipe were developed from analysis of vouchers showing the prices actually paid by the company and from a consideration of all available information relating to the price at which pipe could be purchased as of June 30, 1941. It is my considered opinion that \$65 per ton, based on Lorain freight, is the probable average price at which steel pipe of 16" diameter and larger could have been purchased as of June 30, 1941. For sizes below 16", the manufacturers' carload lists and discounts were used.

The indexes for the installation costs of mains and laterals were based upon the relation of actual costs of construction to recent construction costs and a consideration of current bids for comparable sizes of pipe in comparable territory.

On page 12 is shown a reconciliation of the original cost before reclassification with the original cost as reclassified. The analysis made for trending purposes excluded such items as transfers, adjustments, and minor additions and retirements. The effect of the reclassification and the extent of such property not analyzed are set forth on this sheet, both as they affect original and reproduction cost.

On page 11 is shown a summary by accounts setting forth the original cost and the reproduction cost new as finally determined after reclassification.

## Reproduction Cost New As Of June 30, 1941

## Summary

Cost of "Gas Plant", exclusive  
of Working Capital, Materials  
and Supplies, Cost of Develop-  
ing Business or Going Value

Account No.	Name of Account	Original Cost	Reproduction Cost June 30, 1941
301	Organization	\$ 10,332 75	\$ 10,333
303	Miscellaneous Intangible Plant	73,667 17	73,667
351 1	Land	26,145 95	26,146
351 2	Land Rights	241,467 33	241,467
352 1	Compressor Station Structures and Improvements	446,260 40	507,801
352 2	Measuring and Regulating Station Structures and Improvements	48,566 40	54,990
352 3	Other Transmission System Structures and Improvements	27,992 58	30,402
353	Mains	9,275,438 65	10,784,327
354 1	Compressor Station Equipment	1,812,503 71	2,122,398
354 2	Measuring and Regulating Station Equipment	125,826 02	142,751
354 3	Other Transmission System Equipment	121 09	121
372	Office Furniture and Fixtures	14,879 76	14,880
373	Transportation Equipment	33,837 47	35,445
374	Stores Equipment	1,609 47	1,610
377	Tools and Work Equipment	13,454 07	12,985
100 3	Construction Work in Progress	109,157 73	109,158
	Totals	\$12,261,260 55	\$14,168,481
	Total Reproduction Cost New, June 30, 1941		\$14,168,481

Michigan Gas Transmission Corporation

RECONCILIATION OF ORIGINAL COST AND OF REPRODUCTION COST  
(BOTH AS OF JUNE 30, 1941) TO REFLECT CHANGES DUE TO RECLASSIFICATION

		ORIGINAL COST				REPR		
Account No.	Name of Account	Before Classification		Items Reclassified	Net Change	Original Cost after Reclassification	Before Classification	
		As Analyzed for Trending Purposes	Transfers, Adjustments, and Items Not Analyzed				As Trended from Analysis	Transfers, Adjustments, and Items Not Analyzed
301	Organization	\$ 10,333	\$	\$	\$	\$ 10,333	\$ 10,333	\$
303	Miscellaneous Intangible Plant	73,667				73,667	73,667	
351.1	Land	26,099		47	47	26,146	26,099	
		5,320(3)		5,320*(3)	5,320*(3)			
351.2	Land Rights	242,539		1,072*	1,072*	241,467	242,539	
352.1	Compressor Station Structures	420,766	33,028*	58,522(1)	25,494(1)	446,260	475,017	33,028*
352.2	Measuring and Regulating Station Structures	47,679	2,795	1,908*	887	48,566	54,103	2,795
352.3	Other Transmission System Structures	66,023	19,297	57,328*(1)	38,031*(1)	27,992	75,723	19,297
353	Mains	9,223,167	50,691	1,581	52,272	9,275,439	10,732,055	50,691
		136,304(3)		136,304*(3)	136,304*(3)			
354.1	Compressor Station Equipment	1,807,072	3,541	1,891	5,432	1,812,504	2,116,966	3,541
354.2	Measuring and Regulating Station Equipment	122,861	3,362	397*	2,965	125,826	139,786	3,362
354.3	Other Transmission System Equipment		121		121	121		121
372	Office Furniture and Equipment	16,179		1,299*	1,299*	14,880	16,179	
373	Transportation Equipment	33,861		24*	24*	33,837	35,469	
374	Stores Equipment	1,646		36*	36*	1,610	1,646	
377	Tools and Work Equipment	13,431		23	23	13,454	12,962	
100.3	Construction Work in Progress	109,158				109,158	109,158	
	Sub-totals	\$12,356,105	\$46,779	\$141,624*	\$ 94,845*	\$12,261,260(2)	\$14,121,702	\$46,779
107	Gas Plant Adjustments			141,624(3)	141,624(3)	141,624(3)		
	TOTALS	\$12,356,105	\$46,779	-0-	\$ 46,779	\$12,402,884(2)	\$14,121,702	\$46,779

\* Indicates red figure

- (1) Includes \$46,591 covering cost of dwellings, garages and outside lighting transferred from account 352.3 to account 352.1.
- (2) Includes \$1,934.46 of reclassifications developed as transferable to expense and other balance sheet accounts, which were not reclassified because no reaccounting items were considered in the original cost reclassification.
- (3) Represents engineering fee of \$139,424 charged by an affiliated construction company and interest during construction estimated at \$2,200 responsive to said amount, the aggregate amount of which, or a substantial portion thereof, in the opinion of the company is properly includible in original cost. However, for the purpose of the present rate proceeding this amount is ignored in the determination of the value of "Gas Plant" for the reason stated in the preliminary report of the original cost of "Gas Plant", submitted in this case, as Exhibit \_\_\_\_.

poration

# REPRODUCTION COST DUE TO RECLASSIFICATION

Original Cost after Reclassi- fication	REPRODUCTION COST NEW				Reproduction Cost after Reclassi- fication
	Before Classification		Items	Net	
	As Trended from Analysis	Transfers, Adjustments, and Items Not Analyzed	Reclassi- fied	Change	
10,333	\$ 10,333	\$	\$	\$	\$ 10,333
73,667	73,667				73,667
26,146	26,099		47	47	26,146
241,467	242,539		1,072*	1,072*	241,467
446,260	475,017	33,028*	65,812(1)	32,784(1)	507,801
48,566	54,103	2,795	1,908*	887	54,990
27,992	75,723	19,297	64,618*(1)	45,321*(1)	30,402
9,275,439	10,732,055	50,691	1,581	52,272	10,784,327
1,812,504	2,116,966	3,541	1,891	5,432	2,122,398
125,826	139,786	3,362	397*	2,965	142,751
121		121		121	121
14,880	16,179		1,299*	1,299*	14,880
33,837	35,469		24*	24*	35,445
1,610	1,646		36*	36*	1,610
13,454	12,962		23	23	12,985
109,158	109,158				109,158
12,261,260(2)	\$14,121,702	\$46,779	-0-	\$46,779	\$14,168,481
141,624(3)					
12,402,884(2)	\$14,121,702	\$46,779	-0-	\$46,779	\$14,168,481

d from account 352.3

er balance sheet accounts,  
ginal cost reclassification.

and interest during construction  
substantial portion thereof,  
the purpose of the present rate  
or the reason stated in the preliminary

[fol. 14391] Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures And Improvements

Summary — All Stations

Location	Original Cost	Reproduction Cost June 30, 1941
Montezuma Compressor Station		
1936 Construction	\$ 58,402	\$ 79,386
1937 " "	42,142	49,349
1940 " (1st Addition)	28,455	29,842
1940 " (2nd " )	21,051	22,065
Zionsville Compressor Station		
1937 Construction	110,585	126,934
1940 " "	27,774	29,108
Edgerton Compressor Station		
1940 Construction	132,357	138,363
Cost of dwellings, garages, and outside lighting included in Account 352.3 in this exhibit but included in Account 352.4 in "Original Cost" statement	46,591	53,881
Reclassified, transferred, or not analyzed	21,097*	21,097*
Total, Account 352.1, All Stations	\$446,260	\$507,801

\* Indicates red figures

[fol. 14392] Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures And Improvements

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
* 1936 Construction		
Main Compressor Building		
Material		
Foundation	\$ 3,963	\$ 4,229
Floor	1,781	2,171
Superstructure	8,033	9,632
Lighting	782	725
Heating		
Unit heaters	670	804
Other material	350	387
Miscellaneous	4	4
Labor	7,756	14,116
Construction overheads	3,185	3,933
Total, Main Compressor Building	\$ 26,524	\$36,001

Auxiliary Building  
Material

Foundation	\$ 653	\$ 697
Floor	2,315	2,822
Superstructure	4,389	5,262
Lighting	705	654
Heating		
Unit heaters	1,006	1,207
Other material	658	727
Plumbing	526	570
Partitions	1,100	1,190
Miscellaneous	72	72
Labor	6,358	11,572
Construction overheads	2,427	2,997
Total, Auxiliary Building	\$20,209	\$27,770

[fol. 14393] Michigan Gas Transmission Corporation

Account 352.1 — Compressor Station Structures And Improvements

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1936 Construction — contd.</u>		
Land Improvements		
Material		
Grading and fill	\$ 620	\$ 593
Walks and roadways	322	526
Fence	3,658	3,658
Labor	1,580	3,018
Construction overheads	871	1,076
Total, Land Improvements	\$ 7,251	\$ 8,871
Meter and Regulator House		
Material		
Foundation and floor	\$ 118	\$ 121
Superstructure	578	817
Lighting	29	26
Heating and Plumbing	227	272
Labor	602	1,159
Construction overheads	212	262
Total, Meter and Regulator House	\$ 1,766	\$ 2,657
Well Pump House	726	1,225
Sump and Hotwell	1,676	2,490
Cistern	250	372
Total, 1936 Construction	\$58,402	\$79,386

[fol. 14394]

## Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures And Improvements

Montezuma Compressor Station.

<u>Item</u>	<u>Original Cost</u>	<u>Reproduction Cost June 30, 1941</u>
<u>1937 Construction</u>		
Main Compressor Building		
Material		
Foundation	\$ 3,656	\$ 3,791
Floor	2,531	2,718
Superstructure	5,547	5,974
Lighting	839	734
Heating		
Unit heaters	699	730
Other material	69	70
Labor	9,105	12,638
Use of construction equipment	1,175	1,152
Construction overheads	5,940	6,884
Total, Main Compressor Building	\$29,561	\$34,691
Auxiliary Building	\$ 147	\$ 170
Land Improvements		
Material		
Grading and fill	820	825
Walks and roadways	3,730	3,775
Fence	108	108
Labor	2,825	4,028
Use of construction equipment	200	196
Construction overheads	1,918	2,223
Total, Land Improvements	\$ 9,601	\$11,155
Outside Lighting	\$ 735	\$ 788
Sump and Hotwell	1,798	2,146
Miscellaneous	300	399
Total, 1937 Construction	\$42,142	\$49,349

[fol. 14395]

## Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures And Improvements

Montezuma Compressor Station

<u>Item</u>	<u>Original Cost</u>	<u>Reproduction Cost June 30, 1941</u>
<u>1940 Construction — 1st Addition</u>		
Main Compressor Building		
Material		
Excavation and backfill	\$ 231	\$ 231
Foundation	2,091	2,216

Floor	680	727
Superstructure	3,206	3,376
Roofing	597	605
Lighting	252	251
Heating		
Unit heater	353	403
Other material	62	63
Labor	7,813	8,157
Use of construction equipment	599	599
Construction overheads	4,331	4,587
Total, Main Compressor Building	\$20,224	\$21,215

## Auxiliary Building

Material		
Foundation	\$ 79	\$ 84
Floor	360	380
Superstructure	910	958
Roofing	281	285
Lighting	73	73
Labor	2,530	2,641
Use of construction equipment	57	57
Construction overheads	1,318	1,396
Total, Auxiliary Building	\$ 5,608	\$ 5,874

[fol. 44396]

## Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures And Improvements

Monjezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — 1st Addition — contd.</u>		
Land Improvements		
Material		
Walks and roadways	\$ 182	\$ 187
Service and drain lines	152	154
Labor	1,190	1,228
Use of construction equipment	61	61
Construction overheads	550	582
Total, Land Improvements	\$ 2,135	\$ 2,212
Sump Pump House	488	511
Total, 1940 Construction — 1st Addition	\$28,455	\$29,812

[fol. 14397]

## Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures And Improvements

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — 2nd Addition</u>		
Main Compressor Building		
Material		
Excavation and backfill	\$ 251	\$ 251
Foundation	1,976	2,095
Floor	572	603
Superstructure	3,149	3,316
Roofing	622	639
Lighting	251	250
Heating		
Unit heater	353	403
Other material	136	139
Labor	7,579	7,912
Use of construction equipment	339	339
Construction overheads	4,442	4,704
Total, Main Compressor Building	\$19,670	\$20,612
Land Improvements		
Material		
Grading and filling	\$ 113	\$ 113
Walks and roadways	125	128
Service lines, drain lines	138	139
Labor	587	606
Use of construction equipment	100	100
Construction overheads	318	337
Total, Land Improvements	\$ 1,381	\$ 1,423
Total, 1940 Construction — 2nd Addition	\$21,051	\$22,065
Total, Account 352.1, Montezuma Compressor Station	\$150,050	\$180,612

[Vol. 14398]

## Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures and Improvements

Zionville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction</u>		
Main Compressor Building		
Material		
Foundation	\$ 6,463	\$ 6,702
Floor	5,242	5,630
Superstructure	14,052	15,134
Lighting	1,271	1,112
Heating		
Unit heaters	1,397	1,458
Water softener	3,321	3,890
Other material	709	718
Plumbing	19	20
Labor	9,830	13,644
Use of construction equipment	2,175	2,132
Construction overheads	10,699	12,400
Total, Main-Compressor Building	\$55,178	\$62,819
Auxiliary Building		
Material		
Foundation	\$ 1,683	\$ 1,745
Floor	1,150	1,235
Superstructure	9,170	9,876
Lighting	1,156	1,012
Heating		
Unit heaters	993	1,037
Insulation	164	173
Other material	642	650
Plumbing	758	800
Labor	7,321	10,162
Use of construction equipment	1,025	1,005
Construction overheads	5,887	6,823
Total, Auxiliary Building	\$29,949	\$34,518

[fol. 14399] Michigan Gas Transmission Corporation

Account 352.1 — Compressor Station Structures and Improvements

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost, June 30, 1941
<u>1937 Construction — contd.</u>		
Land Improvements		
Material		
Grading and fill	\$ 850	\$ 855
Walks and roadways	2,064	2,089
Fence	1,718	1,718
Labor	3,213	4,582
Use of construction equipment	648	635
Construction overheads	2,041	2,366
Total, Land Improvements	\$ 10,534	\$ 12,245
Meter and Regulator House		
Material		
Foundation	\$ 290	\$ 259
Floor	45	46
Superstructure	1,344	1,572
Lighting	197	167
Heating	1,060	1,068
Plumbing	59	62
Labor	451	643
Construction overheads	829	961
Total, Meter and Regulator House	\$ 4,275	\$ 4,778
Well and Pump Houses	\$ 3,072	\$ 4,041
Sump and Hotwell	2,738	3,169
Cistern	520	568
Main Drainage System	33	35
Water Well	4,286	4,731
Total, 1937 Construction	\$110,585	\$126,934

[fol. 14400] Michigan Gas Transmission Corporation

Account 352.1 — Compressor Station Structures and Improvements

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost, June 30, 1941
<u>1940 Construction</u>		
Main Compressor Building		
Material		
Foundation	\$ 2,239	\$ 2,373
Floor	1,609	1,697

Superstructure	3,497	3,682
Lighting	294	293
Heating		
Unit heater	353	403
Other material	116	118
Plumbing	35	35
Miscellaneous	26	26
Labor	7,160	7,475
Use of construction equipment	810	810
Construction overheads	4,412	4,672
Total, Main Compressor Building	\$ 20,551	\$ 21,584

Auxiliary Building		
Material		
Foundation	\$ 123	\$ 130
Floor	334	352
Superstructure	1,131	1,191
Lighting	70	70
Labor	1,836	1,917
Use of construction equipment	130	130
Construction overheads	1,093	1,157
Total, Auxiliary Building	\$ 4,717	\$ 4,947

(fol. 14401) Michigan Gas Transmission Corporation

Account 352.1 — Compressor Station Structures and Improvements

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — contd.</u>		
Land Improvements		
Material		
Grading and fill	\$ 333	\$ 333
Walks and roadways	185	190
Service lines and drains	402	406
Labor	988	1,020
Use of construction equipment	77	77
Construction overheads	521	551
Total, Land Improvements	2,506	\$ 2,577
Total, 1940 Construction	\$27,774	\$ 29,108
Total, Account 352.1, Zionsville Compressor Station	\$138,350	\$156,042

[ol. 14402] Michigan Gas Transmission Corporation

## Account 352.1 -- Compressor Station Structures And Improvements

Edgerton Compressor Station

<u>Item</u>	<u>Original Cost</u>	<u>Reproduction Cost June 30, 1941</u>
<u>1940 Construction</u>		
Main Compressor Building		
Material		
Foundation	\$ 7,674	\$ 8,134
Floor	3,181	3,356
Superstructure	9,341	9,836
Roofing	1,795	1,818
Lighting	900	897
Heating		
Unit heaters	1,028	1,175
Other material	210	214
Plumbing	234	236
Labor	20,268	21,160
Use of construction equipment	1,182	1,182
Construction overheads	10,718	11,350
Total, Main Compressor Building	\$56,531	\$ 59,358
Auxiliary Building		
Material		
Foundation	\$ 3,305	\$ 3,503
Floor	2,524	2,663
Superstructure	4,879	5,138
Roofing	1,487	1,506
Lighting	483	482
Heating		
Unit heaters	685	783
Boilers	1,916	1,916
Other material	1,446	1,476
Plumbing	508	512
Partitions	1,432	1,432
Labor	18,035	18,829
Use of construction equipment	1,345	1,345
Construction overheads	9,116	9,654
Total, Auxiliary Building	\$47,161	\$49,239

[fol. 14403] Michigan Gas Transmission Corporation

## Account 352.1 — Compressor Station Structures And Improvements

Edgerton Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — contd.</u>		
Land Improvements		
Material		
Walks and roadways	\$ 1,391	\$ 1,426
Fence	3,253	3,253
Labor	2,136	2,204
Use of construction equipment	569	569
Construction overheads	1,492	1,580
Total, Land Improvements	\$ 8,841	\$ 9,032
Meter and Regulator House		
Material		
Foundation	\$ 138	\$ 144
Floor	123	129
Superstructure	693	726
Roofing	375	380
Lighting	17	17
Heating		
Unit heater	342	391
Other material	135	139
Plumbing	4	4
Labor	1,335	1,386
Use of construction equipment	226	226
Construction overheads	758	803
Total, Meter and Regulator House	\$ 4,146	\$ 4,345
Well Pump Houses	\$ 2,202	\$ 2,301
Hotwell	3,786	3,949
Sump House	4,171	4,317
Cistern	419	479
Water Wells and Equipment	5,070	5,322
Total, 1940 Construction	\$132,357	\$138,363
Total, Account 352.1, Edgerton Compressor Station	\$132,357	\$138,363

[fol. 14404] Michigan Gas Transmission Corporation

Account 352.2 -- Measuring And Regulating  
Station Structures And Improvements

Item	Original Cost	Reproduction Cost June 30, 1941
Ann Arbor Measuring and Regulating Station	\$ 622	\$ 659
Attica-WilliamSPORT Measuring and Regulating Station	267	283
Bluffton Measuring and Regulating Station	755	945
Brownsburg Measuring and Regulating Station	166	244
Carmel Measuring and Regulating Station	143	210
Crawfordsville Tap Measuring and Regulating Station	382	419
Crawfordsville Town Border Measuring and Regulating Station	302	319
Dana Measuring and Regulating Station	216	318
Danville Measuring and Regulating Station	213	285
Decatur Measuring and Regulating Station	761	967
Detroit Measuring Station	16,978	19,824
Detroit Regulating Station	17,840	19,051
Fairmount Measuring and Regulating Station	336	357
Ft. Wayne Measuring and Regulating Station	2,071	2,242
Kokomo Measuring and Regulating Station	1,108	1,372
Lafayette Measuring and Regulating Station	280	292
Lapel Measuring and Regulating Station	167	208
Lebanon Town Border Measuring and Regulating Station	580	649
Lebanon Tap Measuring and Regulating Station	317	353
Montezuma Measuring and Regulating Station	265	370
New Castle Measuring and Regulating Station	620	791
Noblesville Measuring and Regulating Station	511	567
North Salem Measuring and Regulating Station	170	228
Paulding Measuring and Regulating Station	635	727
Pendleton Measuring and Regulating Station	237	306
Pittsboro Measuring and Regulating Station	198	268
Rockville Measuring and Regulating Station	267	393
Tipton Measuring and Regulating Station	241	253
Wauseon Measuring and Regulating Station	626	663
Winchester Measuring and Regulating Station	269	341
Zionsville Measuring and Regulating Station	136	199
Not analyzed	887	887

Total, Account 352.2 -- Measuring and Regulating  
Station Structures and Improvements

\$48,566

\$54,990

[fol. 14405]

## Michigan Gas Transmission Corporation

Account 352.3—Other Transmission System Structures And Improvements

Summary — All Locations

<u>Location</u>	<u>Original Cost</u>	<u>Reproduction Cost June 30, 1941</u>
Montezuma Compressor Station 1936 Construction	\$ 9,033	\$12,402
Zionsville Compressor Station 1937 Construction	36,133	41,041
Edgerton Compressor Station 1940 Construction	20,857	22,230
Cost of dwellings, garages, and outside lighting included in Account 352.3 in this exhibit but included in Account 352.1 in "Original Cost" statement	46,591*	53,881*
Reclassified, transferred, or not analyzed	8,560	8,560
Total, Account 352.3 — All Locations	<u>\$27,992</u>	<u>\$30,402</u>

\* Indicates red figures

[fol. 14406]

## Michigan Gas Transmission Corporation

Account 353.3 — Other Transmission System Structures And Improvements

Montezuma Compressor Station

<u>Item</u>	<u>Original Cost</u>	<u>Reproduction Cost June 30, 1941</u>
<u>1936 Construction</u>		
Dwelling		
Material		
Excavation and backfill	\$ 62	\$ 62
Foundation	331	345
Superstructure	1,747	2,206
Lighting	144	132
Heating	245	245
Plumbing	334	365
Labor	2,855	4,913
Use of construction equipment	5	5
Construction overheads	781	965
Total, Dwelling	<u>\$ 6,504</u>	<u>\$ 9,238</u>

4825.

Garage	\$ 724	\$ 1,103
Outside Lighting	1,805	2,061
Total, 1936 Construction	\$ 9,033	\$ 12,402
Total, Account 352.3, Montezuma Compressor Station	\$ 9,033	\$ 12,402

[fol. 44407] Michigan Gas Transmission Corporation

Account 352.3 — Other Transmission System Structures And Improvements  
Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction</u>		
Warehouse		
Material		
Foundation	\$ 158	\$ 165
Floor	248	251
Superstructure	5,176	5,456
Lighting	45	42
Heating	271	283
Miscellaneous	198	198
Labor	1,790	2,443
Construction overheads	1,995	2,312
Total, Warehouse	\$ 9,880	\$11,150
Dwelling		
Material		
Foundation	\$ 1,104	\$ 1,144
Superstructure	3,042	3,772
Lighting	476	152
Heating	53	39
Plumbing	453	478
Labor	4,150	5,420
Use of construction equipment	304	298
Construction overheads	2,246	2,603
Total, Dwelling	\$11,529	\$13,906
Garage	1,094	\$ 1,334
Outside Lighting	4,078	3,959
Miscellaneous	9,552	10,692
Total, 1937 Construction	\$36,133	\$41,041
Total, Account 352.3, Zionsville Compressor Station	\$36,133	\$41,041

[fol. 14408]

## Michigan Gas Transmission Corporation

Account 352.3 — Other Transmission System Structures And Improvements

Edgerton Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction</u>		
Dwelling		
Material		
Foundation	\$ 585	\$ 614
Floor and superstructure	3,138	3,781
Roofing	445	451
Lighting	195	194
Heating	187	187
Plumbing	355	359
Labor	4,490	4,647
Use of construction equipment	330	380
Construction overheads	2,264	2,398
Total, Dwelling	\$11,988	\$12,961
Garage	\$ 1,452	\$ 1,583
Outside Lighting	2,535	2,642
Service and drain lines	4,882	5,094
Total, 1940 Construction	\$20,857	\$22,280
Total, Account 352.3, Edgerton Compressor Station	\$20,857	\$22,280

[fol. 14409]

## Michigan Gas Transmission Corporation

Account 353 — Mains

Summary — All Years

Year	Original Cost	Reproduction Cost June 30, 1941
1930 Construction	\$1,030,450	\$ 1,158,798
1931	1,106,849	1,336,401
1936	4,774,132	5,601,298
1937	437,947	467,554
1939	505,077	563,750
1940	1,368,712	1,604,554
Not analyzed	52,272	52,272
Total, Account 353, Mains — All Years	\$9,275,439	\$10,784,327

[fol. 14410]

## Michigan Gas Transmission Corporation

## Account 353 — Mains

Item		Original Cost	Reproduction Cost June 30, 1941
<u>1930 Construction</u>			
Material			
Pipe — 20" O.D., 59.23#	245,573 ft.	\$531,964	\$ 518,878
" — 10-3/4" O.D., 54.73#	29,480 "	32,180	58,439
" — 26" O.D., (casing)	591 "	1,506	1,469
" — 24" O.D., (casing)	1,140 "	2,829	2,759
" — 16" O.D., (casing)	312 "	483	471
Freight on pipe		49,226	54,099
Valves		7,016	11,134
Paint		20,257	20,743
River Clamps		9,478	10,558
Couplings and sleeves (Dayton)		38,332	34,959
Freight (other than on pipe)		5,845	6,447
Damages		5,829	5,829
Pipe inspection		3,462	3,462
Storage		1,263	1,263
Hauling		226	238
Miscellaneous		10,305	10,305
Installation — labor and equipment		228,342	321,394
Construction overheads		81,907	96,351
Total, 1930 Construction		\$1,030,450	\$1,158,798

[fol. 14411]

## Michigan Gas Transmission Corporation

## Account 353 — Mains

Item		Original Cost	Reproduction Cost June 30, 1941
<u>1931 Construction</u>			
Material			
Pipe — 20" O.D., 59.23#	125,349 ft.	\$203,609	\$ 240,625
" — 18" O.D., 53.22#	273,865 "	392,493	454,585
" — 10-3/4" O.D., 54.73#	10,035 "	12,110	19,914
" — 24" O.D., 79.05# (casing)		3,038	4,937
Freight on pipe		58,741	64,556
Couplings (Dresser)		27,617	25,654
" (Dayton)		8,499	9,323
Gate Valves		11,266	18,304
Chill rings		3,463	4,426
Miscellaneous pipe fittings		1,897	1,946
Damages		51,336	51,336
Freight (other than on pipe)		5,567	6,140

Demurrage and storage	396	396
Hauling	1,087	1,199
Expenses in clearing	10,205	10,205
Miscellaneous	24,559	24,559
Installation — labor and equipment	221,632	313,126
Use of automobiles	889	982
Construction overheads	68,445	73,288
Total, 1931 Construction	<u>\$1,106,849</u>	<u>\$1,336,101</u>

[fol. 14412] Michigan Gas Transmission Corporation

## Account 353 — Mains

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1936 Construction</u>		
Material		
Pipe — 22" O.D. 1,212,442 ft.	\$2,512,217	\$2,791,324
" — 12-3 4" O.D. 53,121 "	76,728	95,319
" — 26" O.D. (casing)	12,778	14,198
" — other sizes	794	920
Freight on pipe	207,639	228,880
Valves — 22"	23,652	31,575
" — 12-3 4"	15,388	20,543
" — other sizes	10,832	14,558
Couplings and sleeves (Dresser)	92,159	107,715
" " " (Dayton)	58,716	61,851
Chill rings	5,190	7,612
River clamps	2,211	2,330
Tile	9,718	10,758
Welding sleeves	7,375	8,372
Claims paid	82,363	82,363
Concrete	2,178	3,017
Gas used	7,777	7,777
Paint	69,648	71,306
Pipe inspection	10,567	10,567
Freight on other than pipe	24,873	27,418
Miscellaneous pipe fittings	3,170	3,563
steel items	8,494	9,642
Other miscellaneous costs	48,425	48,425
Workman's Compensation Insurance	12,008	16,304
Installation — labor and equipment	1,240,496	1,672,850
Use of automobiles	5,975	6,519
Construction overheads	222,761	245,592
Total, 1936 Construction	<u>\$4,774,132</u>	<u>\$5,601,298</u>

[fol. 14413]

## Michigan Gas Transmission Corporation

## Account 353 — Mains

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction:</u>		
Material		
Pipe — 4-1 2" O.D., 8.63s	\$ 17,809	\$ 18,817
" — 6-5 8" O.D., 12.89s	102,979	108,705
" — 8-5 8" O.D., (casing)	1,291	1,370
" — 10-3/4" O.D., (casing)	547	578
Freight on pipe	10,458	11,493
Freight	2,847	3,140
Valves	8,831	9,670
Paint	9,290	9,511
Damages	7,763	7,763
Concrete	5,956	7,451
Lumber	316	440
Tile	281	300
Miscellaneous steel items	3,210	3,525
" pipe and fittings	3,162	3,361
Welding sleeves	1,352	1,285
Burlap bags	3,149	3,149
Scrubbers and accessory equipment	21,307	23,745
Miscellaneous	36,050	36,050
Installation — labor and equipment	182,516	198,004
Use of automobiles	530	530
Construction overheads	18,303	18,667
Total, 1937 Construction	\$437,947	\$467,554

[fol. 14414]

## Michigan Gas Transmission Corporation

## Account 353 — Mains

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1939 Construction</u>		
Material		
Pipe — 24" O.D. 81,181 ft.	\$136,576	\$164,397
" — 16" O.D. 8,929 "	15,900	19,139
" — sizes other than above	1,759	2,074
Freight on pipe	23,168	23,168
Couplings and sleeves	12,982	12,982
Valves	7,724	8,311
River clamps	4,458	4,699

Welding sleeves and saddles	4,161	4,161
Chill rings	942	1,040
Gas used	2,310	2,810
Miscellaneous pipe fittings	7,242	7,727
Paint	13,648	13,973
Damages	6,279	6,279
Concrete (in place)	25,475	30,213
Riprap (in place)	45,162	47,375
Miscellaneous	438	438
Installation — labor and equipment	179,564	197,193
Use of automobiles	2,183	2,183
Construction overheads	15,166	16,091
Total, 1939 Construction	\$505,077	\$563,750

(fol. 14415)

## Michigan Gas Transmission Corporation

## Account 353 — Mains

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction</u>		
Material		
Pipe — 24" O.D.	\$ 523,659	\$ 728,043
" — sizes other than 24"	4,216	4,921
Freight on pipe	70,867	70,867
Couplings and sleeves	45,474	45,474
Valves	19,334	20,803
Drips	1,221	1,698
Welding sleeves and saddles, chill rings	13,984	14,278
Side gate valves, blowoffs, etc.	2,328	2,496
Tar felt	4,824	4,824
Concrete anchors	5,163	5,762
Riprap and breakers	31,817	32,422
Farm taps	371	375
Cathodic protection	42	42
Stiles and line markers	1,386	1,386
Miscellaneous pipe, fittings, etc.	14,089	14,258
Cross-over lines	2,148	2,758
Miscellaneous	31,763	31,763
Paint	36,609	35,609
Installation — labor and equipment	494,949	518,747
Use of automobiles	2,034	2,034
Construction overheads	62,434	64,994
Total, 1940 Construction	\$1,368,712	\$1,604,554

[fol. 14416]

## Michigan Gas Transmission Corporation

## Account 354.1 — Compressor Station Equipment

Summary — All Stations

<u>Item</u>	<u>Original Cost</u>	<u>Reproduction Cost June 30, 1941</u>
Montezuma Compressor Station		
1936 Construction	\$ 270,615	\$ 346,989
1937 " "	202,418	250,473
1940 " (1st Addition)	118,853	131,428
1940 " (2nd " )	111,470	123,262
Zionsville Compressor Station		
1937 Construction	506,068	614,147
1940 " "	124,686	137,576
Edgerton Compressor Station		
1940 Construction	472,962	513,091
Not analyzed	5,432	5,432
Total, Account 354.1 — All Stations	\$1,812,504	\$2,122,398

[fol. 14417]

## Michigan Gas Transmission Corporation

## Account 354.1 — Compressor Station Equipment

Montezuma Compressor Station

<u>Item</u>	<u>Original Cost</u>	<u>Reproduction Cost June 30, 1941</u>
<u>1936 Construction</u>		
Material		
2—24"x36" Worthington 1300 BHP horizontal, twin tandem, double acting gas engines with 15"x36" feather-valve type gas compres- sors, designed for a working press- ure of 500# sq. in.	\$94,820	\$125,162
2—9"x10½" Worthington 180 HP, four-cycle, single-acting, six cyl- inder, vertical gas engines each with a 125 kw. Westinghouse electric generator, 5kw. direct- connected exciter, and field rheostats	15,581	20,162

2—Fluor #B-45-24-30 muffler and air duct units complete	4,114	6,570
3—Worthington motor-driven, horizontally-split case, single-stage, centrifugal jacket water circulating pumps, 700 g.p.m. capacity	1,074	1,204
3—Worthington motor-driven, horizontally-split case, single-stage, centrifugal cooling tower circulating pumps, 700 g.p.m. capacity	1,074	1,204
1—Worthington motor-driven, vertical-type, two-stage air compressor, actual capacity 54 c.f.m.	673	837
1—Worthington vertical, angle-type, two-stage air compressor driven by 10 HP model NNU Novo gas engine, actual capacity 32 c.f.m.	712	889
3—36" I.D. x 20'0" long air receivers, 250 lbs. W.P.	1,052	1,328

(fol. 14418)

Michigan Gas Transmission Corporation

Account 3541 — Compressor Station Equipment

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1936 Construction — contd.</u>		
<u>Material</u>		
1—Fluor #6XA12 Aerator type cooling tower erected	\$ 3,387	\$ 4,325
6—Griscom-Russell type #C-240 single pass atmospheric type Bentabé gas cooling coils	3,963	4,359
2—Coppus #FC-6 air filters	115	115
4—Coppus #FD-4 air filters	884	884
1—ITE six panel "Multimite" totally-steel-enclosed, generator and distribution switchboard	4,924	4,924
Storage battery, charging equipment, rack and switches	299	212

1—DeLaval #45-15 Uni-Matic lubricating oil purifier unit complete with pumps and automatically controlled 6 kw. heater	851	1,013
Gauge board, gauges, and thermometers	508	508
2—1000 gallon oil storage tanks	116	116
2—Wayne #364C oil measuring pumps and two-barrel kerosene outfit	146	140
Electrical control equipment, power and ignition circuits	2,738	2,611
Station piping	33,976	37,333
1—Euclid double-girder, hand-operated traveling crane, 12-ton capacity, 69' 6" span, 17' lift	2,247	3,890

(fol. 14419)

## Michigan Gas Transmission Corporation

## Account 354.1 — Compressor Station Equipment

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June, 30, 1941
<u>1936 Construction — contd.</u>		
Material		
2—Yale and Towne model BB, 2-ton spur-gear'd chain hoists	\$ 220	\$ 239
4—Yale and Towne model T, 2-ton roller-bearing trolleys	151	164
1—Kewanee #7184 Type "C" Hi-fire-box steam heating boilers complete with burner equipment, insulation, stack and breaching	1,917	2,183
1—Jennings #61520 condensate pump	183	226
1—Myers #902 AT self-oiling, automatic, motor-driven cistern water pump	103	127
1—75,000-gallon elevated water tank—erected	4,915	7,200
1—Myers #V913M motor-driven water line agitator pump	124	153
1—Permutit water softening plant	2,913	3,901

2—Water wells drilled, 300 g.p.m. capacity	5,400	5,940
1—Goulds #3048 1½" duplex, vertical, motor-driven sump pump unit	593	713
2—#250 B, 7½ lb. iron case meters	360	390
2—12" recording differential gauges	230	238
4—Emco 2" high-pressure, balanced-valve regulators	360	391
2—Low-pressure, balanced-valve regulators	256	278

[fol. 14420]

## Michigan Gas Transmission Corporation

## Account 354.1 — Compressor Station Equipment

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1936 Construction — contd.</u>		
Material		
Shop machinery		
1—Boye and Emmes 16"x10" geared-head lathe	\$ 2,699	\$ 4,351
1—Morris 3'9" light duty drill press	2,092	3,372
1—Cincinnati type FLA grinder	86	139
General equipment	1,775	1,944
(Shelves, bins, lockers, desks, washers, thermometers, wall partitions, small tools, etc.)		
Miscellaneous		
Main unit incidental costs	2,629	2,881
" " foundations	4,897	5,203
Economizer incidental costs	78	84
Generator foundations	543	571
Gas cooler	810	918
Water tank	428	451
Water line (approximately 2000' — 6-5 8" pipe)	1,648	1,882
Drain line	723	785
Other miscellaneous items	4,990	4,990
Labor	23,826	41,934

Use of construction equipment	64	63
Construction overheads	32,388	37,462
Total, 1936 Construction	\$270,615	\$346,989

[fol. 14421]

## Michigan Gas Transmission Corporation

## Account 354.1 — Compressor Station Equipment

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction</u>		
Material		
2—24"x36" Worthington 1300 BHP horizontal, twin-tandem, double-acting gas engines with 15"x36" feather-valve type, gas compressors, designed for 500#/sq. in.	\$ 94,524	\$126,379
2—Fluor type #B-45-24-30 muffler and air duct units	1,530	2,087
2—Buffalo #3½ type CL motor-driven exhaust fans	595	402
1—Fluor model #7XA12 cooling tower and extension to existing #6XA12 tower	4,361	4,993
6—Griscom-Russell type #C-240 single pass Bentube gas cooling coils	5,466	6,013
4—Coppus FD-4 air filters complete with louvers	720	720
2—Blaw-Knox 60" diameter gas scrubbers, capacity 2,750 MCF/hr.	5,725	6,549
1—2" semi-steel head and welded steel sump complete with Cumo Auto-Klean filter	412	412
2—G.E. Tungar rectifiers, 12 amp. rate	159	159
Electrical control equipment, power and ignition circuits	512	442
Station piping	17,818	17,966

[fol. 14422]

## Michigan Gas Transmission Corporation

## Account 354.1 — Compressor Station Equipment

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction — contd.</u>		
Material		
1—Edlund #4B1 spindle ball bearing, round column drilling machine	\$ 1,110	\$ 1,734
General equipment (Washing machine, steel lockers, thermometers, etc.)	199	213
Miscellaneous		
Main unit incidental costs	332	364
" " foundations	5,366	5,871
Gas cooler "	246	231
Other foundations and miscellaneous items	2,515	2,480
Labor	17,870	23,874
Use of construction equipment	2,629	2,576
Construction overheads	40,559	47,008
Total, 1937 Construction	<u>\$202,418</u>	<u>\$250,473</u>

[fol. 14423]

## Michigan Gas Transmission Corporation

## Account 354.1 — Compressor Station Equipment

Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — 1st Addition</u>		
Material		\$ 63,845
1—24"x36" Worthington 1300 BHP hori- zontal, twin-tandem, double-acting gas engines with 15"x36" feather valve type gas compressors, de- signed for a working pressure of 500* sq. in.	\$ 55,134	

1—9"x10 <sup>1</sup> / <sub>2</sub> " Worthington 180 HP four-cycle, single-acting, six cylinder vertical gas engine with 125 kw. Westinghouse electric generator and a 5 kw. direct-connected exciter	9,411	10,136
1—Fluor air-cooled muffler and air duct assembly complete with blower	2,760	3,505
1—Worthington type 6-LS-1 motor-driven, double-suction, single-stage, centrifugal cooling tower circulating pump, 700 g.p.m. capacity	507	539
1—Worthington type 6-LS-1 motor-driven, double-suction, single-stage, centrifugal jacket water circulating pump, 700 g.p.m. capacity	530	563
Coppus air filters complete		
2—FD-4, 3200 CFM capacity	372	372
1—FC-6, 660 CFM "	56	56
1—Fluor cooling tower extension, model 2XA12 consisting of two 6' bays	2,528	2,841
Addition to generator and distribution switchboard in auxiliary building	2,746	2,746

[fol. 14424]

Michigan Gas Transmission Corporation

Account 354.1 — Compressor Station Equipment

Montezuma Compressor StationReproduction  
Cost  
June 30, 1941

Item

Original  
Cost1940 Construction — 1st Addition — contd.

## Material

Electrical control equipment, power and ignition circuits	\$ 266	\$ 264
Station piping	5,252	5,388
General equipment (Steel partitions)	765	765

296—12,466

Miscellaneous		
Main unit incidental costs	157	162
" " foundations	2,377	2,437
Generator	175	182
Miscellaneous	75	77
Other miscellaneous items	1,113	1,113
Labor	15,782	16,555
Use of construction equipment	1,308	1,308
Construction overheads	17,539	18,574
Total, 1940 Construction, 1st Addition	\$118,853	131,428

[fol. 14425] Michigan Gas Transmission Corporation  
 Account 354.1 — Compressor Station Equipment  
Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — 2nd Addition</u>		
<u>Material</u>		
—24"x36" Worthington 1300 BHP horizontal, twin-tandem, double- acting gas engines with 15"x36" feather valve type gas compressors, designed for a working pressure of 500# sq. in.	\$55,225	\$ 63,619
1—Fluor air-cooled muffler and air duct assembly	2,728	3,465
1—Worthington type 6-LS-1 motor- driven, double-suction, single- stage, centrifugal cooling tower circulating pump, 700 g.p.m. ca- pacity	459	488
1—Worthington type 6-LS-1 motor- driven, double-suction, single- stage, centrifugal jacket water circulating pump, 700 g.p.m. ca- pacity	481	511
2—Coppus air filters, #FD-4	360	360
1—Griscom-Russell size #C-240 Ben- tube single pass gas cooling coils	3,056	3,362
1—Weinman salt brine pump	77	81
Electrical/control equipment, power and ignition circuits	429	417
Station piping	7,667	7,865
1—Concrete salt storage basin	463	487

[fol. 14426] Michigan Gas Transmission Corporation  
 Account 354.1 — Compressor Station Equipment  
Montezuma Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — 2nd Addition — contd.</u>		
Material		
Miscellaneous		
Main unit incidental costs	\$ 174	\$ 179
" " foundations	2,533	2,597
Miscellaneous "	97	90
Other miscellaneous items	237	237
Labor	13,282	13,933
Use of construction equipment	1,371	1,371
Construction overheads	22,840	24,188
Total, 1940 Construction, 2nd Addition	\$111,470	\$ 123,262
Total, Account 354.1, Montezuma Compressor Station	\$703,356	\$ 852,152

[fol. 14427] Michigan Gas Transmission Corporation  
 Account 354.1 — Compressor Station Equipment  
Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction</u>		
Material		
4—24"x36" Worthington 1300 BHP horizontal, twin-tandem, double- acting gas engines with 13-1/8"x36" feather-valve type, gas compressor cylinders, designed for a working pressure of 800#/sq. in.	\$203,449	\$ 265,501
2—9"x10-1/2" Worthington 180 HP four- cycle, single-acting, six-cylinder, vertical gas engines each with a 125 kw. Westinghouse electric generator, 5 kw. direct connected exciter, and field rheostats	17,678	20,206

4—Fluor #B45-24-39, muffler and air duct units	3,961	4,175
1—Buffalo #3 1/2 type CL motor driven exhaust fans	789	802
3—Worthington motor-driven, horizontally-split case, double-suction, single-stage, centrifugal cooling tower circulating pumps, 700 g.p.m. capacity	1,262	1,352
3—Worthington motor-driven, horizontally-split case, double-suction, single-stage, centrifugal jacket water circulating pumps, 700 g.p.m. capacity	1,330	1,424
1—Worthington type VA-2, motor-driven starting air set complete, actual capacity 32 c.f.m.	741	831
1—Worthington type VA-2, starting air set driven by 10HP Novo gas engine, actual capacity 54 c.f.m.	816	941

[fol 14428]

## Michigan Gas Transmission Corporation

Account 354.1 — Compressor Station Equipment

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction — contd.</u>		
Material		
3—36" I.D. x 20'0" long air receivers	\$ 1,341	\$ 1,379
2—Fluor #7XA12 Aerator type cooling towers — erected %	7,889	9,033
12—Griseom-Russell type #C-246 single pass-Bentube gas cooling coils	12,900	14,190
8—Coppus #FD-4 air filters complete	1,440	1,440
2—Coppus #FC-6 air filters complete	129	129
1—Westinghouse six-panel, cubicle type switchboard	4,876	4,876
1—235 amp. storage battery, Westinghouse battery charging rack, and Rectox and Tangar battery chargers	572	572
1—Gauge-board, gauges, and thermometers	998	998
2—Metric 250 B, 75# iron case meters	360	383
1—DeLaval #45-15 Uni-Matic oil purifier unit complete with two pumps	863	1,027

2-1000 gallon lubricating oil storage tanks, 48" diameter x 10'8" long, with oil	513	562
2-Wayne #364C oil measuring pumps and kerosene outfit	146	140
Electrical control equipment, power lines, power and ignition circuits	3,481	3,006

[fol. 14429] Michigan Gas Transmission Corporation

Account 354.1 - Compressor Station Equipment

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction - contd.</u>		
Material		
Station piping	\$ 50,234	\$ 50,651
1-Euclid double-girder, hand-operated traveling crane, 42-ton capacity, 69'6" span, 15'6" lift	2,820	3,875
2-Yale and Towne model BB, 2-ton spur-gear chain hoists	232	252
4-Yale and Towne model T, 2-ton roller-bearing trolleys	156	169
1-Kewanee #7184 type "C" firebox steam heating boilers complete with burner equipment, insulation, stack and breeching	1,986	2,105
1-Jennings #61520 condensate pump	220	244
1-V-913 AMT Myers automatic eastern water pump complete	265	228
1-75,000-gallon elevated water tank - erected	5,975	7,803
1-Permutit "Super Zeo-Dur" water softening unit, 19 cu. ft. (including salt)	300	352
"Water well pumps, 300 g.p.m. capacity	2,325	2,558
1-Goulds #3048, 1 1/2" duplex, vertical, motor-driven sump pump unit	556	610
Shop machinery		
1-27"x20'0" heavy duty, geared head lathe	7,215	11,270
1-Morris 3'9" light duty drill press	2,092	3,268
1-Cincinnati type FLA grinder	116	181

[fol. 14430]

## Michigan Gas Transmission Corporation

Account 354.1 — Compressor Station Equipment

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1937 Construction — contd.</u>		
Material		
General equipment (Shelves, bins, lockers, desks, washer, thermometers, wall parti- tions, small tools, etc.)	\$ 4,625	\$ 4,944
Miscellaneous		
Main unit incidental costs	2,206	2,418
Main unit foundations	9,432	10,320
Economizer incidental costs	1,356	1,333
Generator foundations	504	507
Gas cooler	834	892
Water tank	152	164
Air	83	87
Drain line	1,161	1,217
Other foundations and miscellaneous items	3,180	3,135
Labor	39,841	53,228
Use of construction equipment	4,620	4,528
Construction overheads	99,008	114,750
Total, 1937 Construction	<u>\$506,068</u>	<u>\$614,147</u>

[fol. 14431]

## Michigan Gas Transmission Corporation

Account 354.1 — Compressor Station Equipment

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction</u>		
Material		
1—24" x 36" Worthington 1300 BHP horizontal, twin-tandem, double- acting gas engine with 13-1 8"x36" feather-valve type, gas compres- sor cylinders, designed for a work- ing pressure of 800* sq. in.	\$ 57,870	\$ 66,782

1—Worthington 180 HP four-cycle, single-acting, six-cylinder vertical gas engine with a 125 kw. electric generator and a 5 kw. direct-connected exciter	9,375	10,097
1—Fluor air-cooled muffler and air duct assembly	2,760	3,505
1—Worthington type 6-LS-1 motor-driven, single-stage, double-suction, centrifugal cooling tower circulating pump, 700 g.p.m. capacity	507	539
1—Worthington type 6-LS-1 motor-driven, single-stage, double-suction, centrifugal jacket water circulating pump, 700 g.p.m. capacity	530	563
1—Extension to cooling tower, model #2XA12 consisting of two 6' bays	2,528	2,841
Coppus air filters		
2—#FD-4, 3200 CFM capacity	371	371
1—#FC-6, 660 CFM "	56	56
1—Switchboard generator panel to control 125 kw. generator	2,248	2,248

(fol. 14432) Michigan Gas Transmission Corporation  
Account 354.1 — Compressor Station Equipment

Zionsville Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction — cont'd.</u>		
Material		
Electrical control equipment, power and ignition circuits	\$ 727	723
Station piping	7,356	7,546
Miscellaneous		
Main unit incidental costs	938	965
" " foundations	2,788	2,858
Generator foundations	333	345
Miscellaneous foundations	103	105
Other miscellaneous items	334	334
Labor	16,318	17,118

Use of construction equipment	1,988	1,988
Construction overheads	17,556	18,592
Total, 1940 Construction	\$124,686	\$137,576
Total, Account 354.1, Zionsville Compressor Station	\$630,754	\$751,723

[fol. 4433] Michigan Gas Transmission Corporation  
Account 354.1 — Compressor Station Equipment  
Edgerton Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction</u>		
Material		
3—24"x36" Cooper-Bessemer 1300 BHP horizontal, twin-tandem, double-acting gas engines with 13½"x36" compressor cylinders	\$175,074	\$198,359
2—9"x10½" Worthington 180 HP, four-cycle, single-acting, six cylinder vertical gas engines, each with a 125 kw. Westinghouse electric generator, 5 kw. direct-connected exciter, and field rheostats	48,798	29,208
3—Fluor, air-cooled main engine exhaust mufflers complete with air ducts and Buffalo #3½ "Limit Load" exhaust fan	4,713	5,986
2—Worthington motor-driven, single-stage, double-suction, centrifugal cooling tower circulating pumps, 700 g.p.m. capacity	1,068	1,112
3—Worthington motor-driven, single-stage, double-suction, centrifugal jacket water circulating pumps, 700 g.p.m. capacity	1,134	1,188
1—Worthington type HB-2 motor-driven, horizontal, tandem, two-stage starting air compressor, 67 c.f.m. actual capacity	1,715	1,905
1—Worthington type VA-2 starting air set driven by 10 HP, 1200 RPM Novo gas engine	795	857
3—36" I.D. x 20'0½" long air receivers	1,305	1,378

[fol. 14434] Michigan Gas Transmission Corporation  
 Account 354.1 - Compressor Station Equipment  
Edgerton Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction - contd.</u>		
Material		
1—Fluor model #7XA Aerator type cooling tower - erected	\$ 4,368	\$ 4,910
8—Griscorn-Russell type #C-240 single pass Bentube gas cooling coils	7,965	8,762
Coppus air filters complete		
6—Size #FD-4, 3200 CFM	1,109	1,109
2— " #FC-6, 660 CFM	112	112
1—7-panel generator and distribution switchboard complete with acces- series	6,312	6,312
Storage batteries and charging equipment	291	291
Gauges, gauge boards, and ther- mometers	1,029	1,029
Meters and regulators	1,559	1,662
1—Goulds motor driven Hydroil oil purifier model 335, Type SHVA	1,196	1,196
2—Wayne #48 lubricating oil storage tanks	145	145
1—12' vertical-lift, floor-type oil measuring pump, one 120-gallon kerosene dispensing pump, and hand operated kerosene pump	153	141
Electrical power and ignition circuits	4,665	4,637
Station piping	45,518	46,692

[fol. 14435] Michigan Gas Transmission Corporation  
 Account 354.1 - Compressor Station Equipment  
Edgerton Compressor Station

Item	Original Cost	Reproduction Cost June 30, 1941
<u>1940 Construction - contd.</u>		
Material		
1—Euclid double-girder, hand-operated traveling crane, 12-ton capacity, 69'6" span, 15'6" lift	\$ 2,965	\$ 3,881

2—Yale and Towne model BB, 2-ton spur-gear'd chain hoists	232	232
2—Yale and Towne model T, 2-ton roller-bearing trolleys	163	163
1—Westco model #C-340 motor-driven, single-stage, double-suction, boiler feed pump, 30 g.p.m. capacity	175	190
1—75,000 gallon elevated water tank on steel tower — erected	6,725	7,801
1—Permutit single-unit water softener, 50,000-gallon capacity, complete with brine pump	5,725	6,100
2—Worthington motor-driven, vertical, single-stage sump pumps—1000 g.p.m. capacity	1,168	1,261
1—Buffalo 1½" motor-driven duplex sump pump, 100 g.p.m. capacity	491	538
Concrete salt storage tank	445	468
2—Water well pumps	1,475	1,546
Shop machinery		
1 — Lathe	3,689	4,010
1 — Drill press	1,273	1,384
1 — Grinder	119	129
Miscellaneous equipment (steel desks, lockers, shelving, bins, etc.)	1,282	1,294

[fol. 14136]

## Michigan Gas Transmission Corporation

Account 354.1 — Compressor Station Equipment

Edgerton Compressor StationOriginal  
CostReproduction  
Cost  
June 30, 1941

Item

1940 Construction — contd.

## Material

## Miscellaneous

Main Unit incidental costs	\$ 2,910	\$ 2,994
" " foundations	10,866	11,140
Economizer incidental costs	59	60
Generator foundations	936	971
Gas cooler	228	240
Cooling tower	1,045	1,099

4847

Water tank	655	679
Air	25	26
Miscellaneous	380	389
Other miscellaneous items	4,235	4,235
Labor	63,894	67,025
Use of construction equipment	7,280	7,280
Construction overheads	75,495	79,949
Total, 1940 Construction	\$472,962	\$513,091
Total, Account 354.1, Edgerton Compressor Station	\$472,962	\$513,091

[fol. 14437] Michigan Gas Transmission Corporation

## Account 352 — Measuring And Regulating Station Equipment

Item	Original Cost	Reproduction Cost June 30, 1941
Ann Arbor Measuring and Regulating Station	\$ 4,082	\$ 4,344
Attica-Williamsport Measuring and Regulating Station	1,724	1,935
Bluffton Measuring and Regulating Station	1,610	1,773
Brownsburg Measuring and Regulating Station	759	899
Carmel Measuring and Regulating Station	779	980
Crawfordsville Tap Measuring and Regulating Station	960	1,079
Crawfordsville Town Border Measuring and Regulating Station	3,639	4,035
Dana Measuring and Regulating Station	766	1,045
Danville Measuring and Regulating Station	1,179	1,353
Decatur Measuring and Regulating Station	1,847	2,024
Detroit Measuring Station	23,142	28,361
Detroit Regulating Station	37,359	41,079
Fairmount Measuring and Regulating Station	3,650	3,850
Ft. Wayne Measuring and Regulating Station	7,806	8,475
King Measuring and Regulating Station	464	488
King (Miscellaneous equipment stored at King Station)	157	174
Kokomo Measuring and Regulating Station	2,587	2,837
Lafayette Measuring and Regulating Station	2,536	2,799
Lapel Measuring and Regulating Station	657	766
Lebanon Tap Measuring and Regulating Station	777	873
Lebanon Town Border Measuring and Regulating Station	2,823	3,157

Montezuma Measuring and Regulating Station	824	1,102
New Castle Measuring and Regulating Station	3,251	4,618
Noblesville Measuring and Regulating Station	2,510	2,776
North Salem Measuring and Regulating Station	881	1,033
Paulding Measuring and Regulating Station	1,526	1,611
Pendleton Measuring and Regulating Station	1,138	1,306
Pittsboro Measuring and Regulating Station	550	669
Roachdale Measuring and Regulating Station	660	784
Rockville Measuring and Regulating Station	1,045	1,380
Tipton Measuring and Regulating Station	2,471	2,614
Wauseon Measuring and Regulating Station	3,167	3,342
Winchester Measuring and Regulating Station	1,902	1,884
Zionsville Measuring and Regulating Station	871	958
Zionsville (Calorimeter Equipment)	2,098	2,365
Zionsville (Meter for Fuel)	156	165
Miscellaneous Additions	808	852
Not analyzed	2,965	2,965
Total, Account 354.2 — Measuring and Regulating Station Equipment	\$125,826	\$142,751

(fol. 14438)

## Michigan Gas Transmission Corporation

## General Equipment

Summary

Account No.	Name of Account	Original Cost	Reproduction Cost June 30, 1941
372	Office Furniture and Fixtures	\$ 16,179	\$ 16,179
373	Transportation Equipment	33,861	35,469
374	Stores Equipment	1,646	1,646
377	Tools and Work Equipment	13,431	12,962
	Difference due to reclassifications	1,336*	1,336*
	Total, General Equipment	\$63,781	\$ 64,920

\*Indicates red figures

(fol. 14439)

## Michigan Gas Transmission Corporation

## Account 372 — Office Furniture And Fixtures

Item	Original Cost	Reproduction Cost June 30, 1941
Furniture — desks, chairs, tables, and other furniture	\$ 9,337	\$ 9,337

Machines — calculators, typewriters, integrators, adding machines, etc.

6,842

6,842

Total, Account 372, Office Furniture and Fixtures

\$16,179

\$16,179

[fol. 14440]

Michigan Gas Transmission Corporation

Account 373 — Transportation Equipment

Item	Original Cost	Reproduction Cost June 30, 1941
Passenger automobiles	\$16,536	\$17,547
Trucks	7,969	8,213
Fire extinguishers	476	476
Trailers	2,028	2,140
Battery Chargers and bench	133	133
Caterpillar tractors	6,202	6,443
Wood river barge	517	517
Total, Account 373, Transportation Equipment	\$33,861	\$35,469

[fol. 14441]

Michigan Gas Transmission Corporation

Account 374 — Stores Equipment

Item	Original Cost	Reproduction Cost June 30, 1941
Pipe racks	\$1,646	\$1,646
Total, Account 374, Stores Equipment	\$1,646	\$1,646

[fol. 14442]

Michigan Gas Transmission Corporation

Account 377 — Tools And Work Equipment

Item	Original Cost	Reproduction Cost June 30, 1941
Lincoln electric welding machines	\$ 2,448	\$ 1,979

4850

Other equipment — concrete mixers, chain hoists, portable pumps, tapping machines, and other small tools

10,983

10,983

Total, Account 377, Tools and Work Equipment

\$13,431

\$12,962

[fol. 14443]

(Exhibit 84.)

Michigan Gas Transmission Corporation

Reproduction Cost New Less Depreciation

as of

June 30, 1941

(Exclusive of

Working Capital, Materials and Supplies,

Cost of Developing Business, or Going Value)

Francis S. Haberly  
Consulting Engineer  
Chicago

[fol. 4444]

Michigan Gas Transmission Corporation

Reproduction Cost New Less Accrued Depreciation As Of June 30, 1941

Summary

Cost of "Gas Plant", exclusive of Working Capital, Materials and Supplies, Cost of Developing Business or Going Value

Account No.	Name of Account	Reproduction Cost New June 30, 1941	Reproduction Cost Less Depreciation
301	Organization	\$ 10,333	\$ 10,333
303	Miscellaneous Intangible Plant	73,667	73,667
351 1	Land	26,146	26,146
351 2	Land Rights	241,467	241,467
352 1	Compressor Station Structures and Improvements	507,801	489,406

352 2	Measuring and Regulating Station Structures and Improvements	54,990	52,088
352 3	Other Transmission System Structures and Improvements	30,402	28,342
353	Mains	10,784,327	10,345,685
354 1	Compressor Station Equipment	2,122,398	2,052,768
354 2	Measuring and Regulating Station Equipment	142,751	132,434
354 3	Other Transmission System Equipment	121	119
372	Office Furniture and Fixtures	14,880	11,606
373	Transportation Equipment	35,445	25,166
374	Stores Equipment	1,610	1,449
377	Tools and Work Equipment	12,985	10,258
100 3	Construction Work in Progress	109,158	109,158
Total Gas Plant Property		\$1,168,481	\$13,810,092

[fol. 14445] Michigan Gas Transmission Corporation

Account 352.1 — Compressor Station Structures And Improvements

Item	Reproduction Cost New June 30, 1941	Condition Percent	Reproduction Cost Less Depreciation
Montezuma Compressor Station			
1936 Construction	\$ 79,386	94.8	\$ 75,258
1937 Construction	49,349	96.0	47,375
1940 Construction	51,877	98.1	50,891
	<u>\$180,612</u>		<u>\$173,524</u>
Zionsville Compressor Station			
1937 Construction	\$126,934	96.0	\$121,857
1940 Construction	29,108	97.9	28,497
	<u>\$156,042</u>		<u>\$150,354</u>
Edgerton Compressor Station			
1940 Construction	\$138,363	97.7	\$135,181
Not analyzed	-21,097*		20,380*
*Cost of dwellings, garages, and outside lighting included in Account 352.3 in this exhibit but included in Account 352.1 in "Original Cost" statement			
Montezuma Station	\$ 12,402	89.0	\$ 11,038
Zionsville Station	19,199	93.0	17,855
Edgerton Station	22,280	98.9	21,834
	<u>\$ 53,881</u>		<u>\$ 50,727</u>
Total, Account 352.1—All Stations	<u>\$507,801</u>		<u>\$489,406</u>

\*Indicates red figure

[fol. 14446]

## Michigan Gas Transmission Corporation

## Account 352.2 — Measuring And Regulating Station Structures

Item	Reproduction Cost New June 30, 1941	Condition Percent	Reproduction Cost Less Depreciation
Ft. Wayne Regulating Station	\$ 2,242	80.0	\$ 1,794
Detroit Measuring Station	19,824	96.0	19,031
Detroit Regulating Station	19,051	97.7	18,613
Other Measuring and Regulating Stations			
1931	799	77.0	609
1932	1,364	80.0	1,091
1934	1,224	86.0	1,053
1935	306	89.0	272
1936	476	91.0	433
1937	5,922	93.0	5,507
1938	414	95.0	393
1939	2,489	97.0	2,414
1940-41	887	99.0	878
Total, Account 352.2 — All Locations	\$54,900		\$52,088

[fol. 14447]

## Michigan Gas Transmission Corporation

## Account 352.3 — Other Transmission System Structures

Item	Reproduction Cost New June 30, 1941	Condition Percent	Reproduction Cost Less Depreciation
Montezuma Compressor Station	\$12,402	89.0	\$11,038
Zionsville Compressor Station	41,041	93.0	38,168
Edgerton Compressor Station	22,280	98.0	21,834
Not analyzed	8,560		8,029
Cost of dwellings, garages, and outside lighting included in Account 352.3 in this exhibit but included in Account 352.1 in "Original Cost" statement			
Montezuma Station	12,402*	89.0	11,038*
Zionsville Station	19,199*	93.0	17,855*
Edgerton Station	22,280*	98.0	21,834*
	\$53,881*		\$50,727*
Total, Account 352.3 — All Stations	\$30,402		\$28,842

\*Indicates red figure